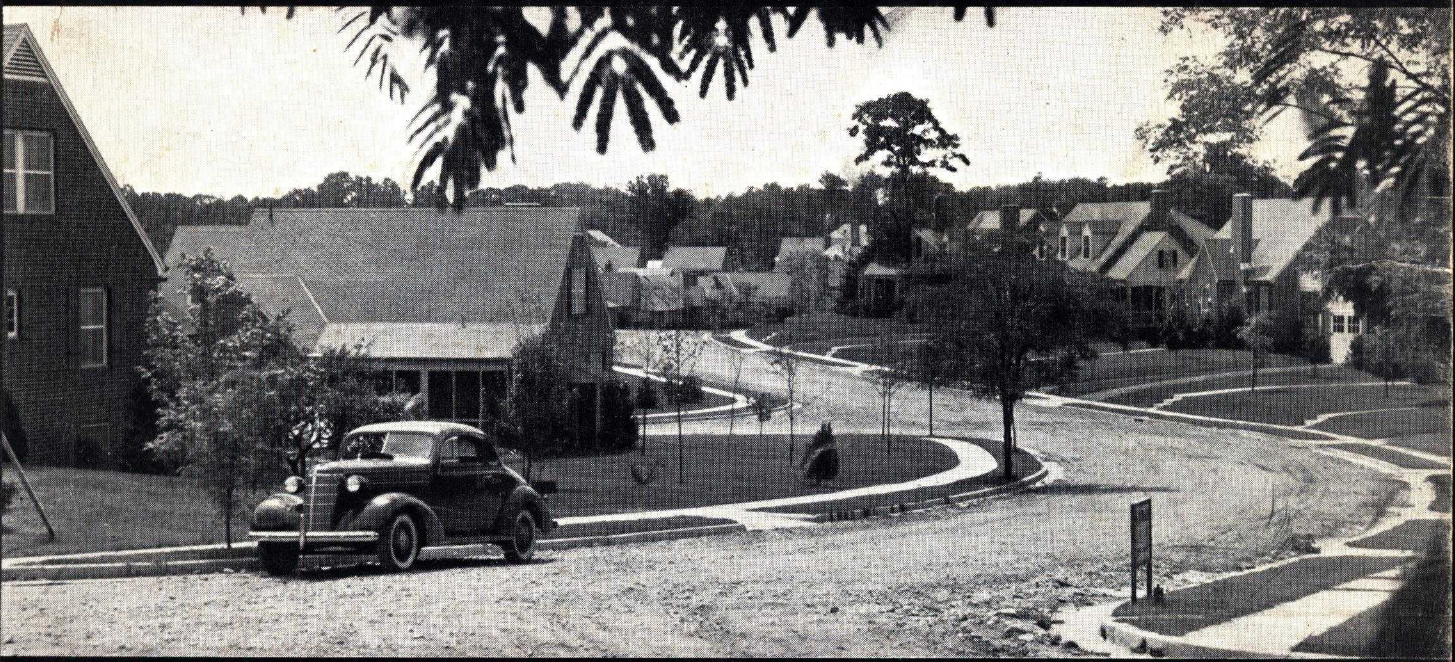
AMERICAN BUILDER

Buyer-Approved HOMES

OF KNOWN COST



Selected Designs, each Complete with TruCost
Reg. U.S. Pat. Off.
Estimating Figures

TYPICAL of the perfection of current home design and construction is this entrance stair hall of Regency period in Chicago Peoples Gas Co. demonstration home; Lincoln Construction Co., Builder; Elmer Wm. Marx, Architect.

Buyer-Approved Homes of Known Cost

15.00

AMERICAN BUILDER

BUYER-APPROVED HOMES

of Known Cost

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Estimating Figures

Published by

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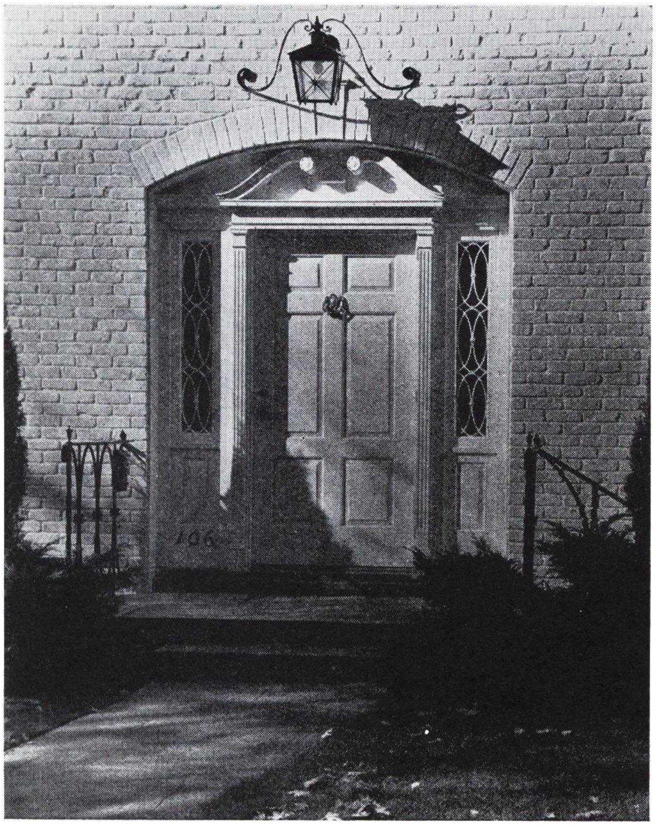
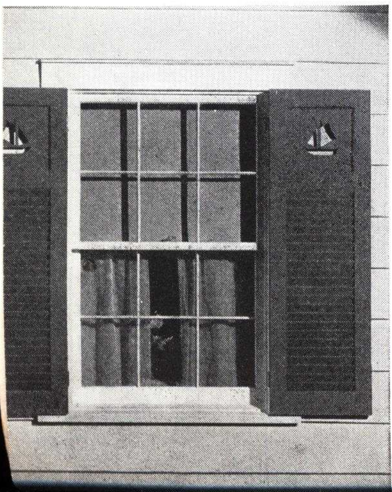
CHICAGO

LEFT; New Colonial door and trim designed for Curtis Millwork by Dwight James Baum, Architect. BELOW; French flavor in house at Munsey Park, L. I., H. W. Johanson, Architect.





ABOVE; Entrance styling by Olive Tjaden, architect; Left; Colonial blind by Curtis Companies.

Exterior Detail Highlights

Doors and Windows of Authentic Style Mark the Product of Today's Home Builders.

FOREWORD—

Homes the People Desire

THE building industry has a great advantage in selling its goods and services. Homes are *both needed and desired.* Shelter, one of the three prime necessities for human existence in the North American climate, is also one of the basic sentimental urges of the human heart. To possess and occupy a home is a dominant motive with almost everyone.

As the nation's population grows and as it shifts from country to town, as new marriages and new families are formed, as old houses become dilapidated and are torn down, as styles and modes of life change and new types of houses in new locations are called for, a great "potential" of home building demand is created. Statistical experts agree that today this piled up need for new homes is the greatest in history. It is estimated at from two million to four million family units—enough to keep the building industry operating at top speed and volume for a number of years.

A Boundless Market

And on top of this stark need for shelter or "housing" there is also this deep and fundamental urge to home ownership which drives both young men and families on to buy or build, making the biggest and most important financial commitment of their lives, in the majority of cases.

And so the business men of the great home building industry have the benefit of these two prime market facts, an unlimited potential of building need and a strong human urge toward satisfying that need. The people want homes—good homes, small homes, low-cost homes. They have quite definite ideas about the type and style of home they want. They have, most of them, been building up in their mind's eye—or in a scrap book—the composite picture of what that new home is to look like and what it is to contain. When they get around to invest their savings *that* is what they want.

Now these facts have a lot of meaning to those builders who are building homes for sale and for all others in the industry who are concerned with promoting home building or with increasing the volume of sales of home building materials and equipment. Sound promotion and sales work obviously should be in line with what the people want and can pay for.

Recently a good many of the business men concerned with home building have been startled and nonplussed by the advent on the home building scene of certain home designs, aggressively promoted, that are so strange and radical in appearance as to upset all accepted ideas of what an American home should look like. *American Builder* has warned against the use of anything of such a sensational and upsetting nature if confidence in home building and home ownership is to be strengthened among the people.

An interesting slant on this subject of extremes in home deseign has also been contributed by W. E. Difford, managing director of the Douglas Fir Plywood Association. He recalls that during the last building boom in the 20's every kind of a house under the sun was built. Many of them were atrocities. When the depression hit the country, every loan institution became a big real estate owner, due to the tremendous volume of foreclosures. If anyone watched the sales of this distressed property at the Court House doors of the country, he could not help but have one object lesson—that the house of conventional design was sold quickly and at a fair price while the abortive architecture was a drug on the market; no one wanted them at any price.

WORKING PLANS

THE study of a book of home designs is sure to lead a good many home seekers, as well as building industry men, to inquire for working plans and specifications of houses illustrated. The *American Builder* is NOT in the stock plan business and does not have working plans to supplement the design suggestions presented in this book. This supplementary service should be secured, if needed, directly from the architect or building designer who originated the design and whose name and address in each instance are given.

These designs are offered with the primary purpose of guiding builders and designers—suggestions to them for their own planning and building activities. The best and most satisfactory planning service is that which is furnished by local men of competence and experience in this field. The best advice to any home seeker desiring to build is to search out the local man who has a reputation for building good houses. Intelligence and sympathetic interest applied at home and with full knowledge of local conditions, tastes and standards produce, on the average, much more satisfactory results than out-of-town, long distance advice, even from the most expert.

In offering this book compiled from the best of *American Builder* designs, the Editors reiterate that in residential construction no problem is of greater importance today than that of good design. The *American Builder,* published monthly, has for years been foremost in advocating *style* in design, with sturdiness in construction and modernity in equipment. These three combine to make a thoroughly good and satisfactory home.

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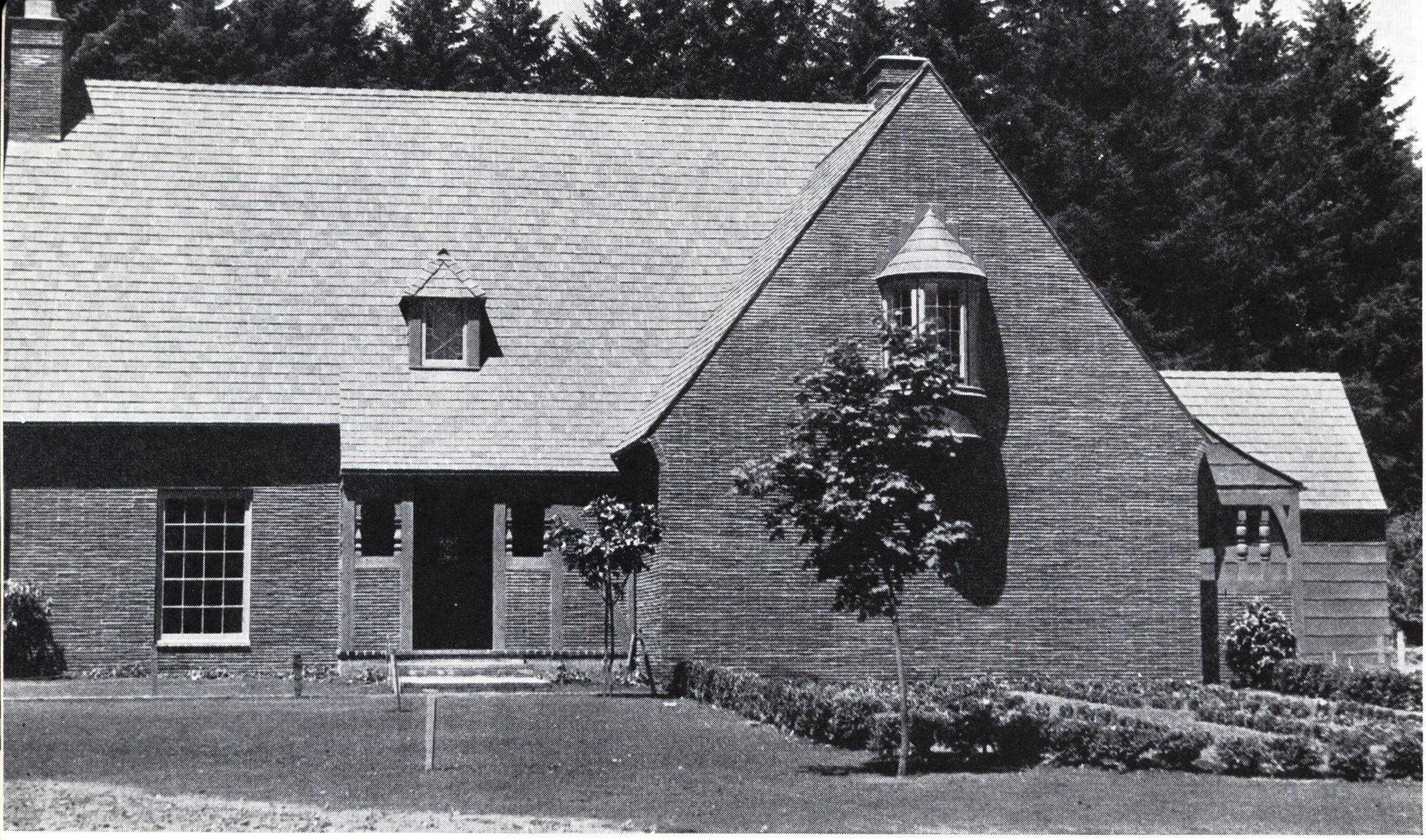

AMERICAN BUILDER
TruCost FIGURES
FOR THIS HOUSE
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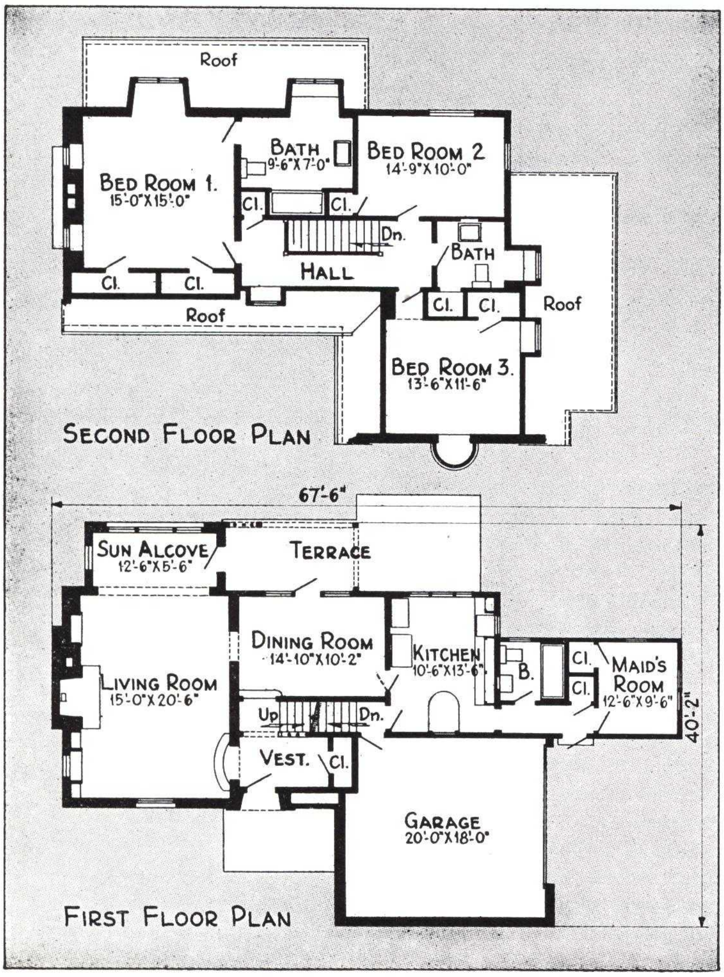
PORTLAND, OREGON, MODEL HOME WITH GOOD LIVING SPACE



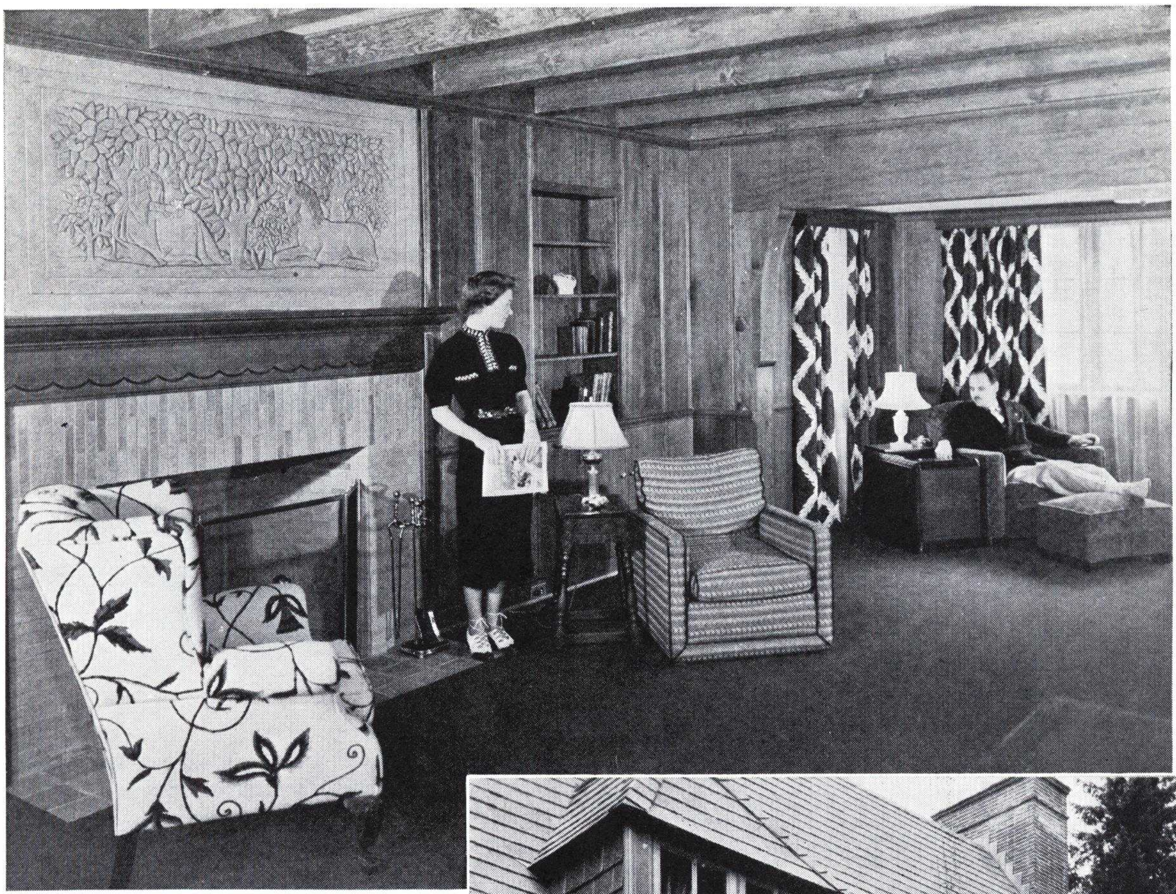
THIS J-M triple-insulated model home in the Lake Oswego development of the Ladd Estate Co., near Portland, Ore., attracted more than ten thousand visitors during a six weeks period. It was designed by Architect Richard Sundeleaf and built by the Lake Oswego Construction Co.

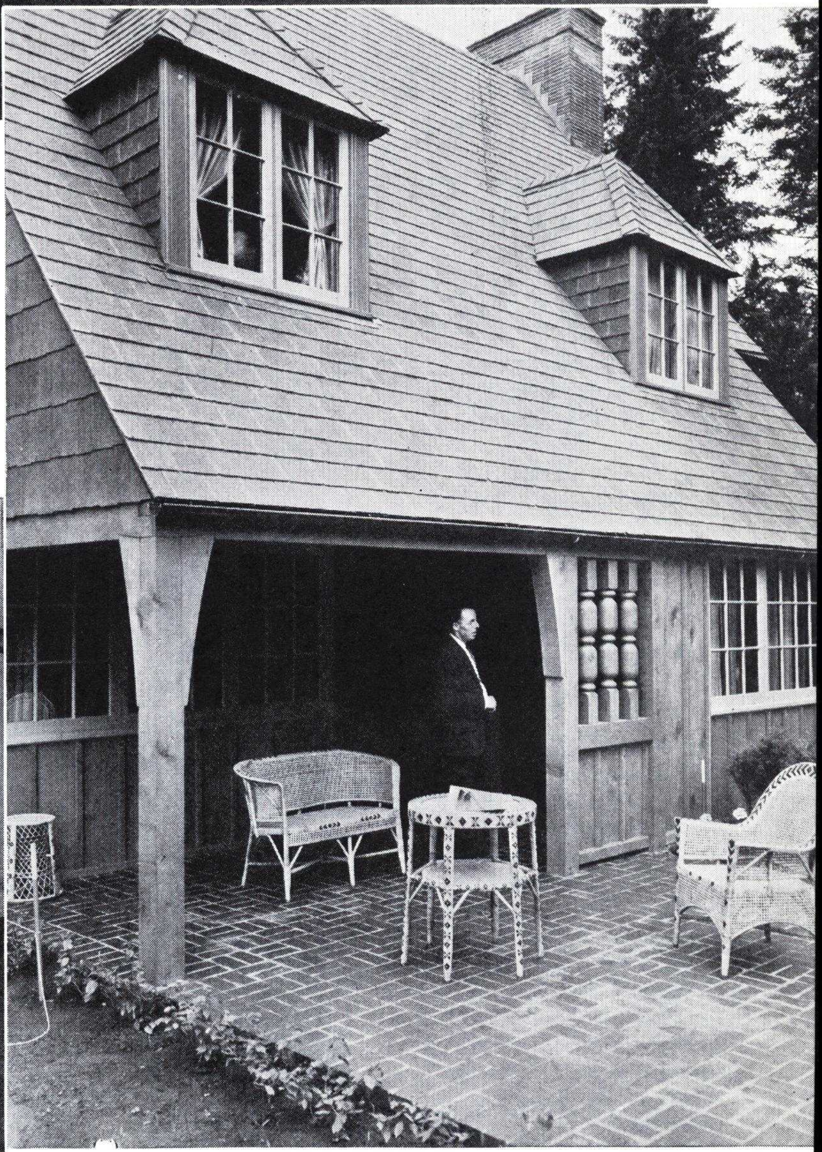
Johns-Manville products used in this home include Steeltex lath, asbestos shingles, rock wool insulation, asbestos wall panels, sound absorbing ceiling blocks, and asphalt floor tile.

Other features are the General Electric kitchen, Gar Wood air conditioning system, Westwind ventilation, and "Overhead" garage doors.

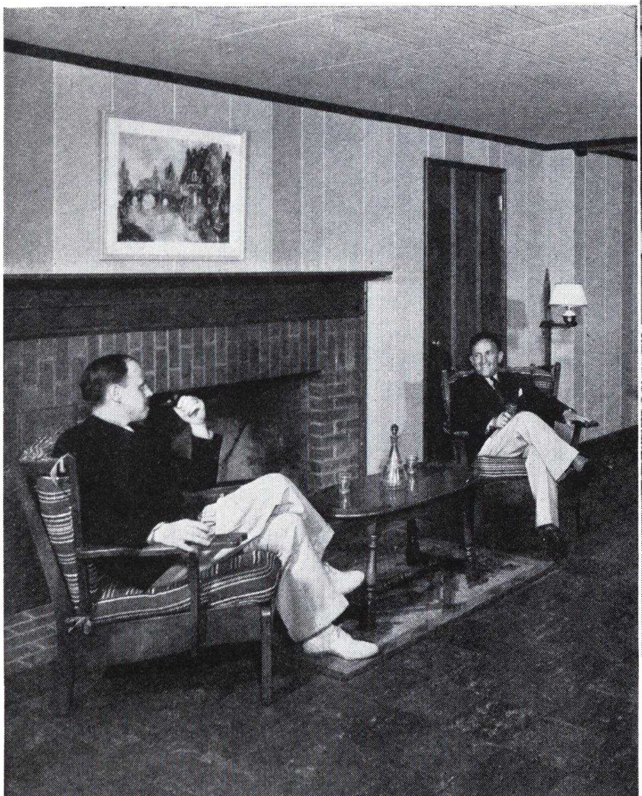
Rough textured Roman type brick twelve inches long with a four-inch face, a recent product of the Columbia Brick Works of Portland, gives an unusual exterior treatment. Gutters, downspouts, flashing and oriel window are made of 14 oz. copper. All woodwork and panels are straight grained Oregon fir.

The garage is concealed under the high gabled roof at the right side of the house, and has inconspicuous entrance from the side. First floor features are the paving brick entrance terrace, tile floor in entrance hall, paneled and beamed living room with relief mantel panel (illustrated on opposite page) by a noted Portland architectural sculptor, oak floors and tile bathroom in maid's quarters, efficient kitchen arrangement.





LIVING AND RECREATION SPACE has been carefully planned in this Portland, Ore., model home designed by Architect Sundeleaf. The large living room, above, for more formal occasions has a large fireplace with side bookshelves and a cheerful alcove at the far end; paneling and beams are of Oregon fir. Play space is provided by the basement recreation room, below, and outdoor living can be enjoyed on the rear terrace seen at the right.



AS BUILT the living porch is located at the side; plans on opposite page show alternate location to the rear which allows placement on a narrower lot.

CAREFULLY PLANNED

Built at Brantwood, Highland, Indiana, by William J. Brant

Willard Walker, Chicago, Architect

THOROUGHLY planned for construction economy without sacrifice of appearance or convenience, this 5-room house has many commendable features. Numerous built-ins such as closets in front and rear halls, corner cases in dining room, kitchen cupboards and linen cabinet, seat and wall closet along the rear of the second floor give much appreciated storage space frequently lacking in small houses. The well lighted kitchen has good work areas; wood-burning fireplace is central feature of living room; all rooms have cross ventilation. Contents with full basement: 19,650 cubic feet.

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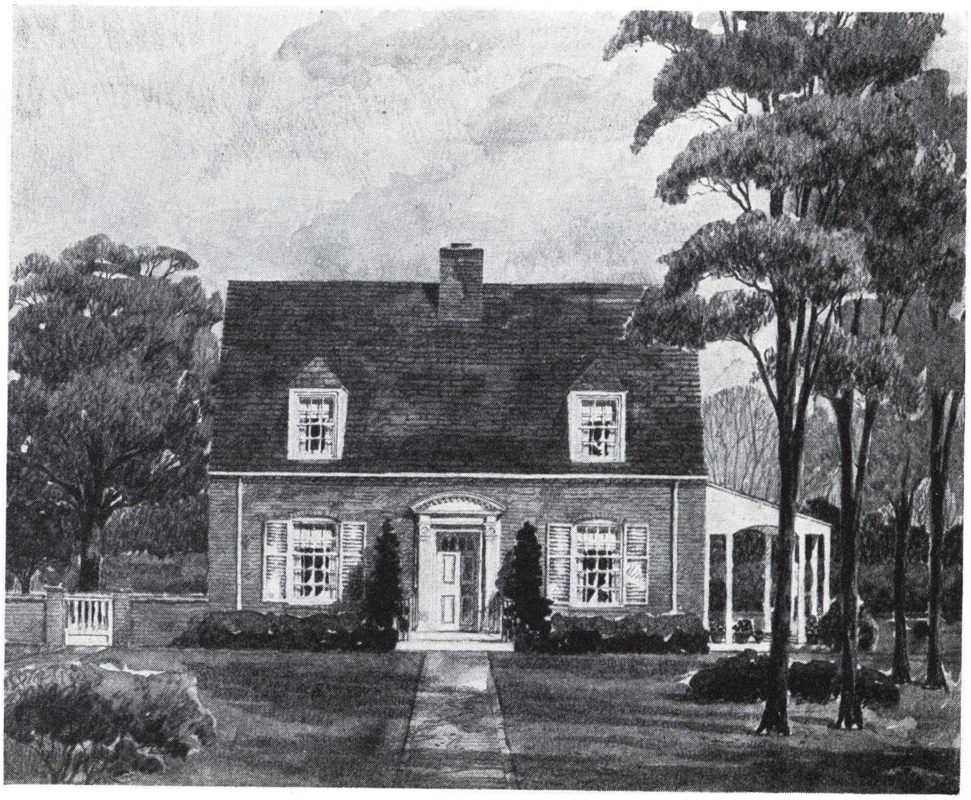
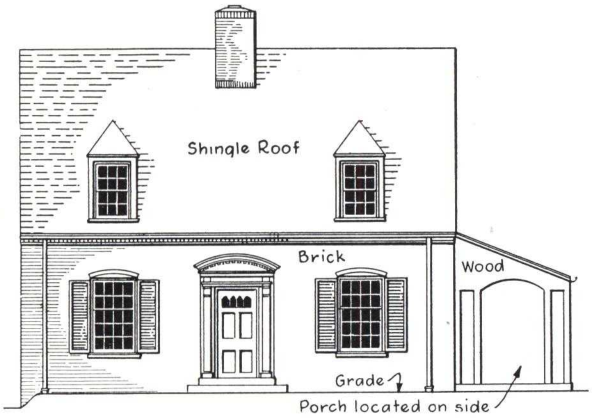
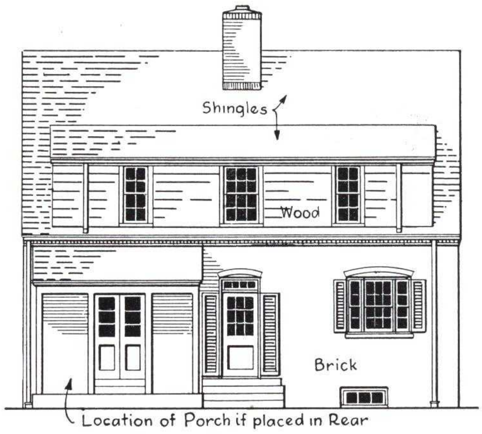


THE ARCHITECT'S rendering at the right when compared with the illustration above shows the accuracy possible in building from carefully designed and engineered plans. This house is one of a group prepared by Architect Walker for his "House of the Month Service" which includes similar houses in a range of 15,000 to 23,000 cu. ft. size. This plan has three alternate exteriors in Cape Cod, American Colonial and French Provincial styles as well as the one shown; all are simple, direct and in good proportion.

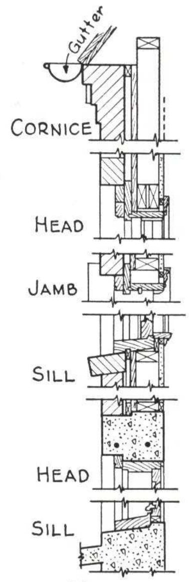


FRONT ELEVATION

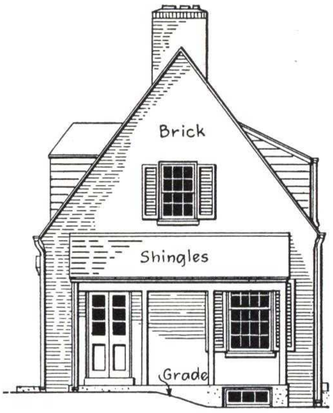


REAR ELEVATION

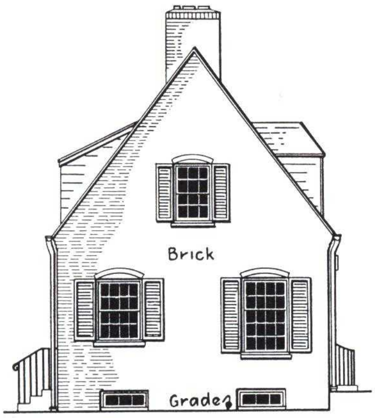
SCALE IN FEET



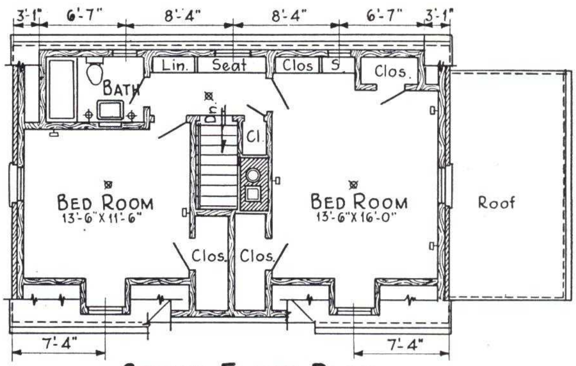
TYPICAL WALL SECTION



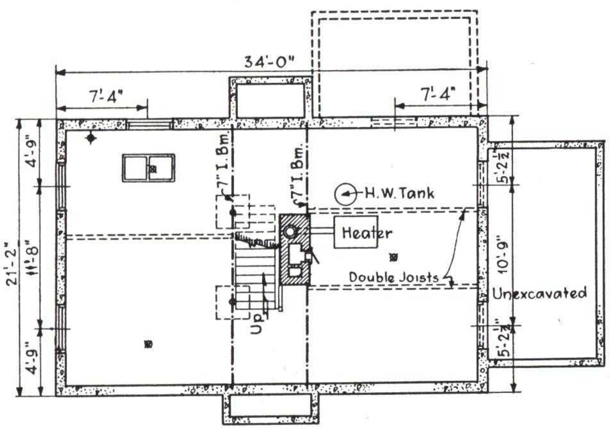
RIGHT SIDE ELEVATION



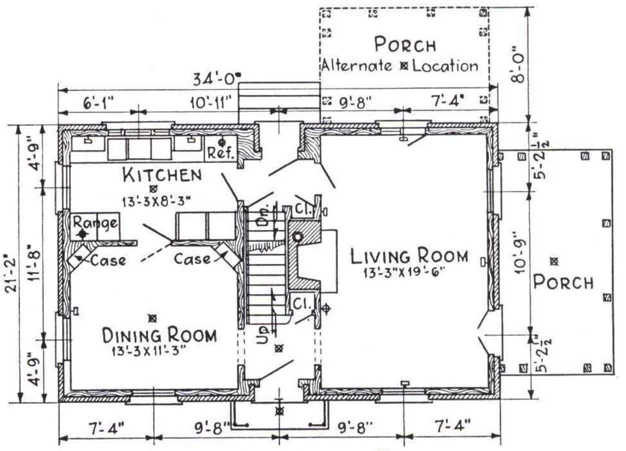
LEFT SIDE ELEVATION



SECOND FLOOR PLAN



BASEMENT PLAN



FIRST FLOOR PLAN

FLOOR PLANS, elevations and wall section prepared from the more completely detailed drawings of Architect Willard Walker.

NEAT entrance patio and a large dining room bay window distinguish this modern bungalow. Concrete masonry walls are finished outside with coral tint cement paint and furred and plastered inside. Roof is concrete tile; trim, cypress.

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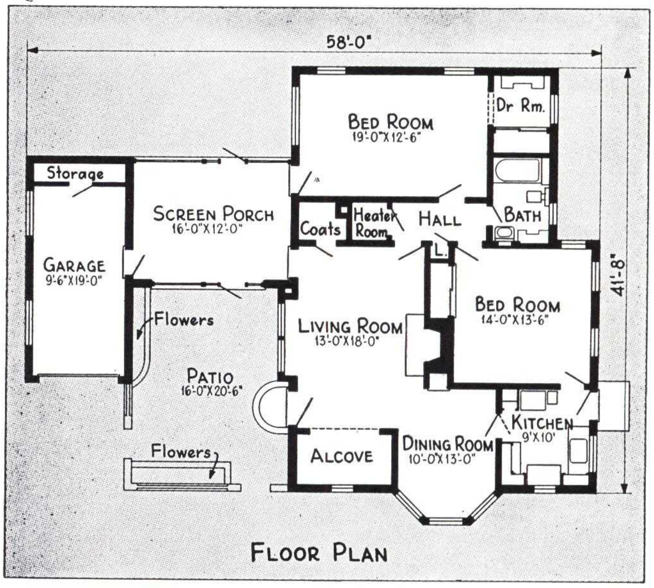
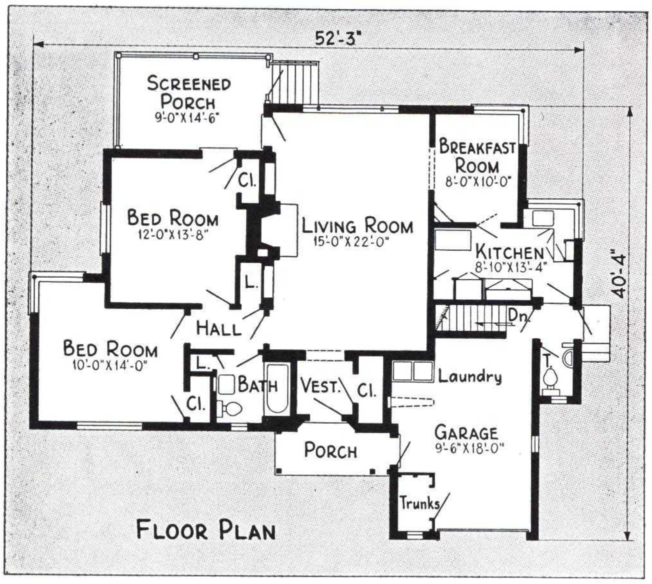
FLORIDA BUNGALOWS IN CONCRETE MASONRY

Kiehl and Stevens, Orlando, Fla., Designers and Builders





VERSATILITY in range of design is demonstrated with these two bungalows planned and built by Kiehl and Stevens of Orlando, Fla. Both are well done, 5-room homes, one handled in a decidedly modern manner, the other along more conservative lines. The plans show good use of space and properly provide the necessary cross ventilation and enclosed porch areas. Both have attached garages, efficient kitchens, living room fireplaces and plenty of closets.

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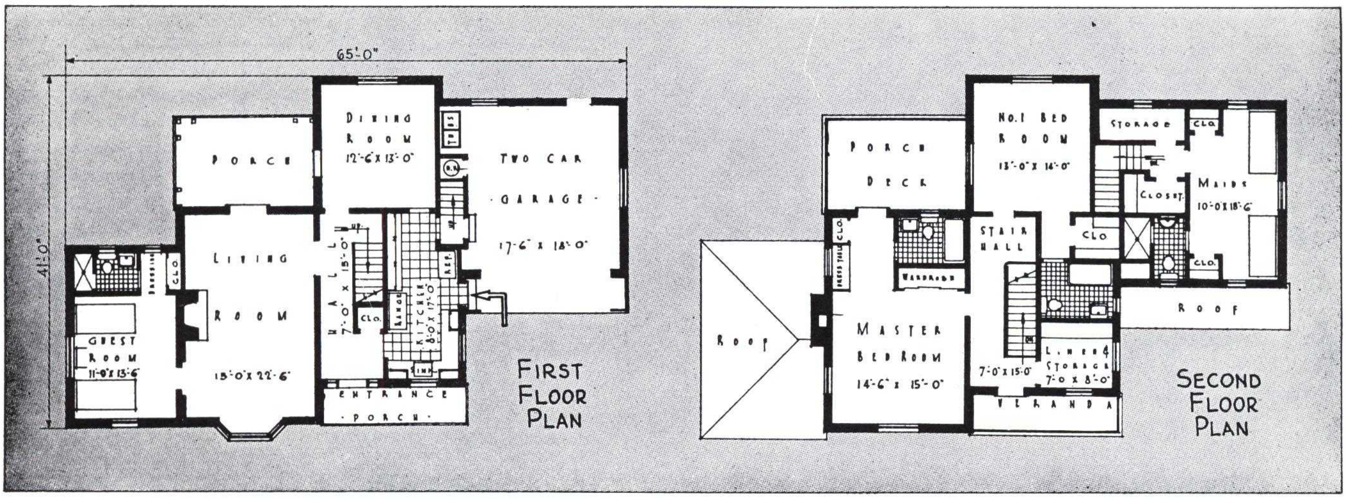
CORNER WINDOWS are unusual in this type of house but here they work out to advantage in three of the rooms. Exterior concrete walls are painted white; roof is slate. Laundry and storage are handily located in the garage.

DESIGNED to offer the most in comfortable living for a house of 7-room size, this gem-like home is outstanding among those recently built in Miami Beach, Fla. It is adapted from the New Orleans Colonial style, with fine entrance doorway and white painted cast iron overhead balcony in a beautiful design. This lacy detail has been repeated at the sides of the garage doors. The white exterior is painted and waterproofed stucco over masonry; hand run stucco forms the trim.

FIRST FLOOR wing off living rooms furnishes separate guest space of bedroom, bath and dressing nook. Entrance hall divides the service portion of the house from the living side. Kitchen and 2-car garage with laundry trays, hot water heater and rear stair to second floor are compactly grouped together. A rear porch is reached from both living and dining rooms. On the second floor there are two bedrooms with baths, maid's quarters and a sun deck.

MODERN VERSION OF NEW ORLEANS COLONIAL

Designed by E. N. Phillips, Built by R. W. Edholm, Inc., Miami Beach, Fla.



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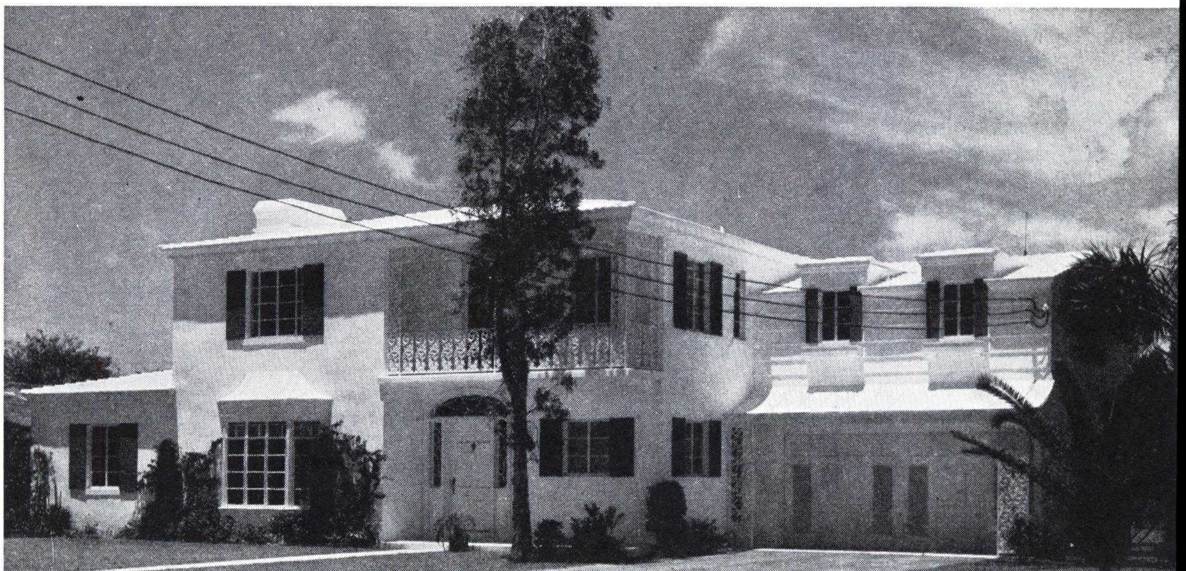
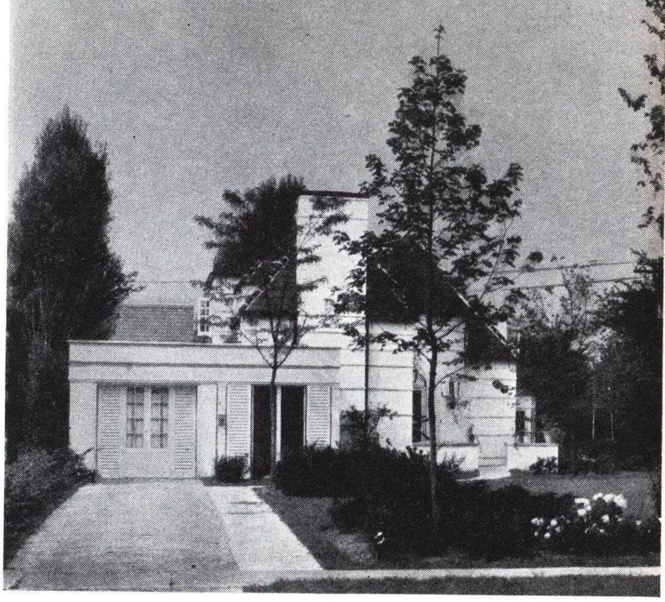


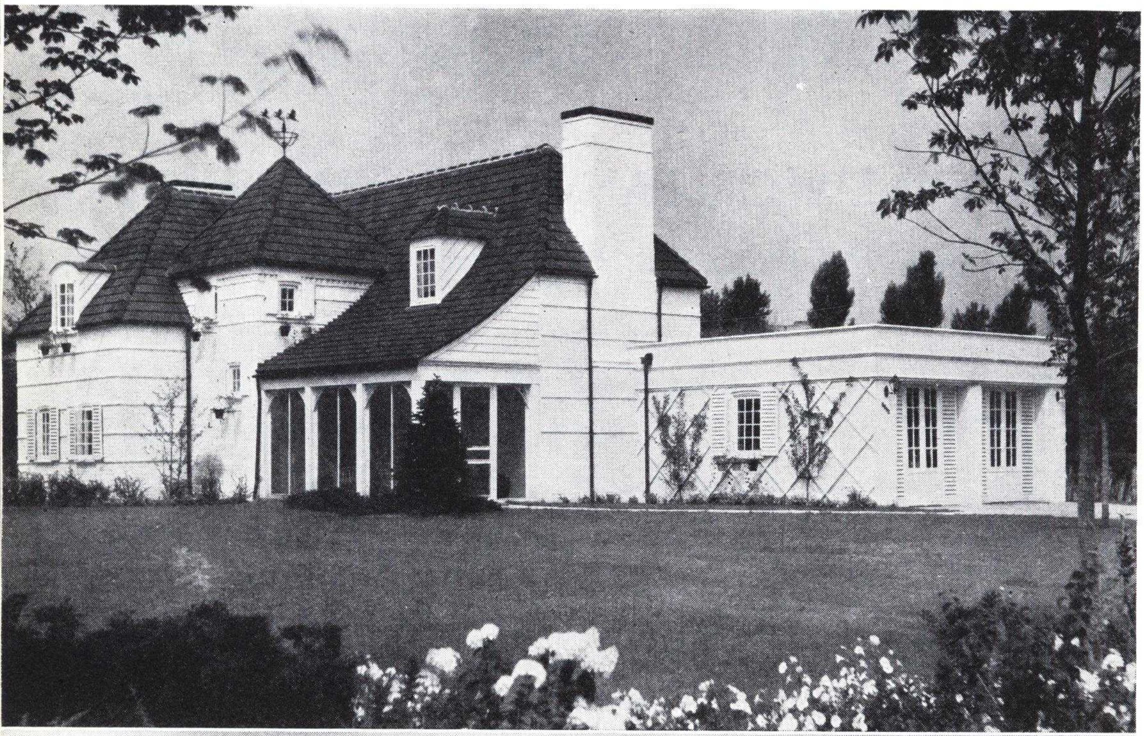
THE INTERESTING pattern of bright surfaces and deep shadows adds to the attractiveness of this fine Florida home. Good cross ventilation and insulated concrete masonry walls keep it as cool as it looks.

RELATED HOMES PLANNED FOR LIGHT, AIR AND VIEW

Built in River Forest, Ill., by Home Builders Co., Chicago; Jerome Robt. Cerny, Architect

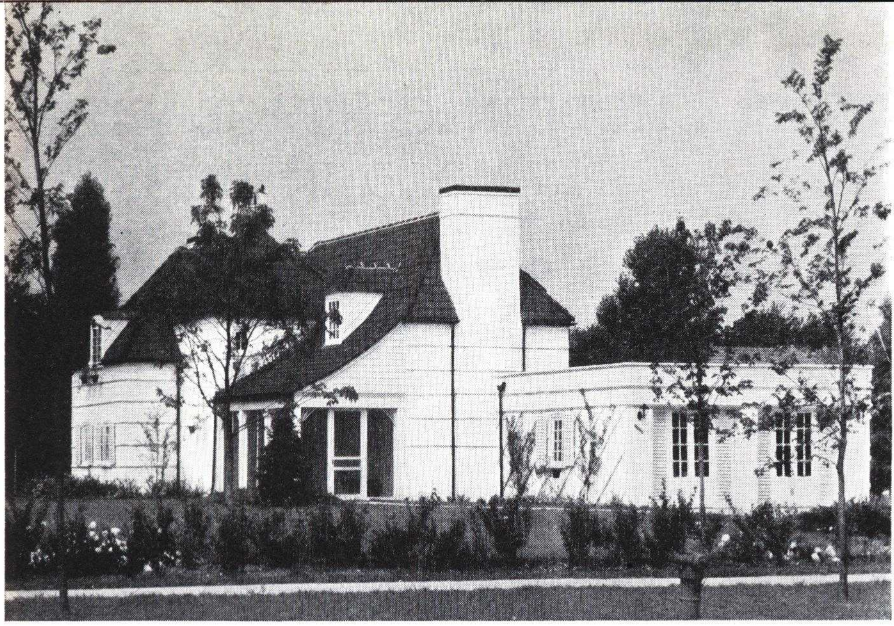
AS AN EXAMPLE of the advantages gained in properly placing houses on their sites, these two fine homes, one of which was built for the parents and the other for the younger generation of a family, are unusual. The placement gives better light, air and vistas to each house than might be possible on even wider individual lots if such consideration was not shown. Similar good practice can profitably be applied in larger developments.



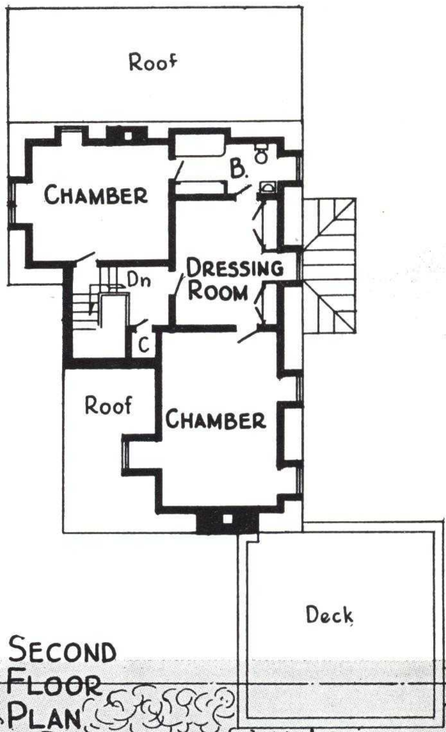


The two houses are as well related in design as in placement. The modified French Norman styling is particularly well handled. Exteriors are of painted common brick with Ludowici provincial tile roofs. Wood casements are used throughout. Equipment includes Sunbeam gas-fired winter conditioning system, Crane plumbing fixtures and Barber-Coleman upward acting garage door hardware; the garage doors which face the street have a decorative window and blind treatment. Rubber tile floors are used in the kitchens and baths, Zenitherm floors in the entries.

HOUSE NO. 1, at the left below, has a screened in living porch which can later be converted into garage space for another car. The wall-enclosed paved terrace with doors leading off the living room gives another outside living area. House No. 2, above at left, also has a living porch which overlooks the wide front yards of both homes and has a large rear porch.



AS SEEN FROM THE STREET, the above view shows how these two River Forest homes have the advantages of good light and air and open outlook across the landscaped property.



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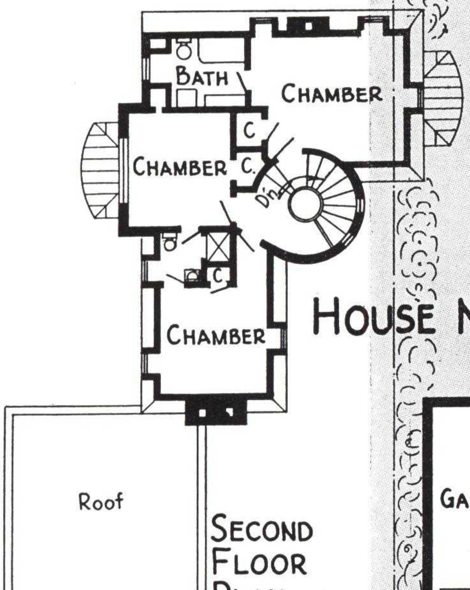
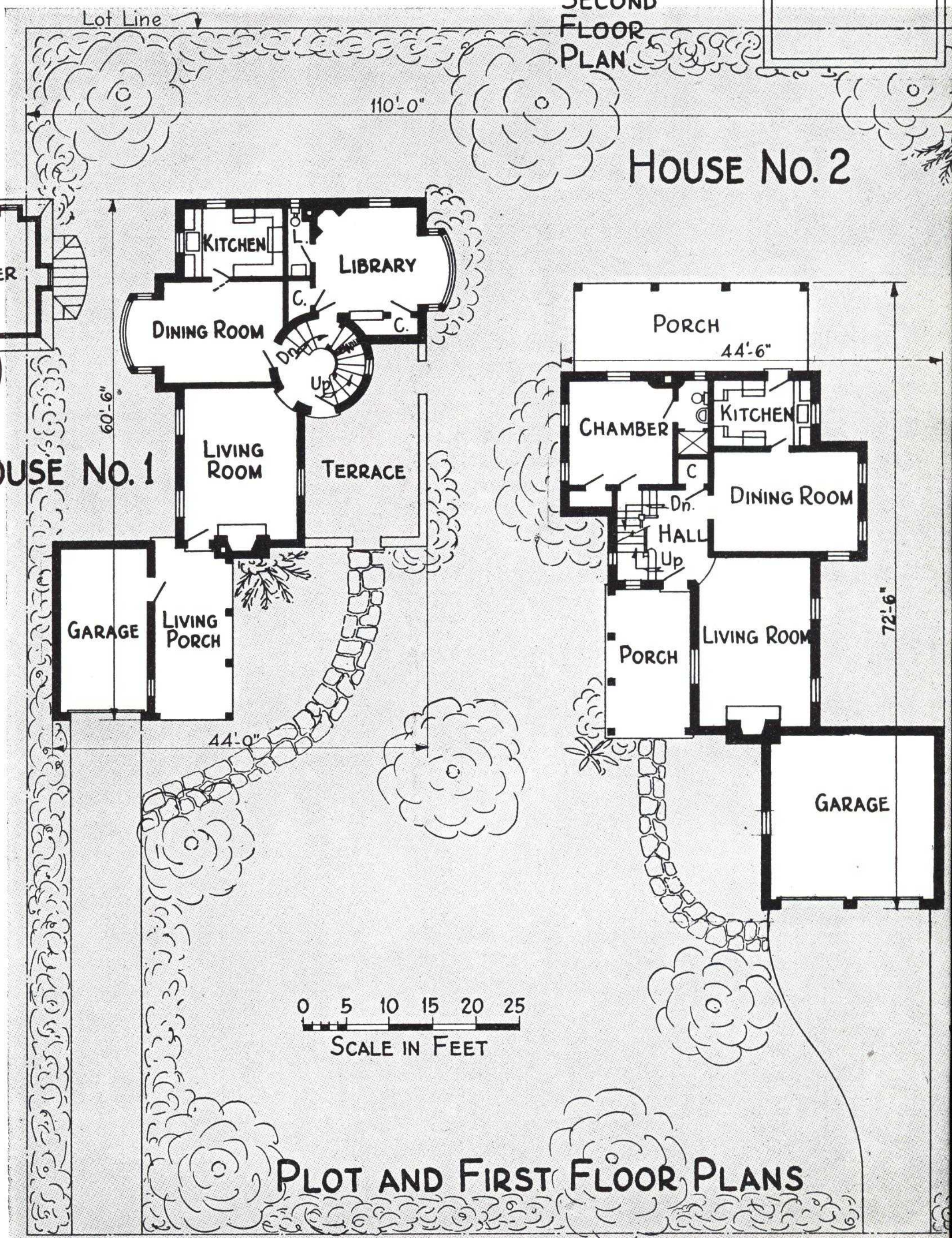




PLOT PLAN indicates arrangement of the two houses on the 110-foot front lot. Adjacent houses are placed on a line about even with the garage of House No. 2, allowing sun and views from House No. 1 across the rear yards. Unless staggered, there would be less than half the present distance from the windows of first floor bedrooms of House No. 2 to nearest wall opposite. Floor plans of both houses are very efficient.

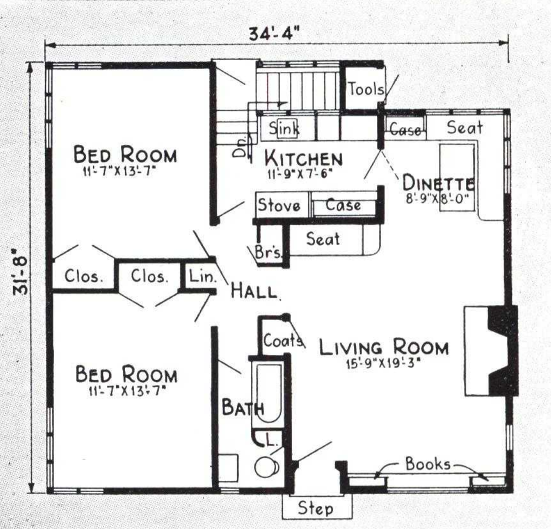
MODERN COTTAGE WITH PLYWOOD INTERIOR

A. Carani, Builder and Owner

Dubin and Dubin, Architects, Chicago

IT IS ALWAYS interesting to see the type of house which a builder chooses for himself. This compact modern house combines many of Builder Carani's own construction and layout ideas. Plywood was selected as interior wall finish throughout including the kitchen; 3/8-inch birch-faced panels ceiling-high are finished natural with lacquer, varnish and wax. Joints are slightly V-grooved and plywood is face-nailed to studs, the holes being filled. Besides offering a modern decorative treatment, minimum redcorating costs are assured. House is located in Highland Park, Ill.

WIDE cypress bevel siding, recessed entrance, corner windows and large chimney are prominent details of exterior treatment. In plan the rooms are of good size and proportion, the living room having appearance of added spaciousness due to adjoining dinette. There is good circulation without excessive hall area. Many built-in features give added convenience.



FIRST FLOOR PLAN

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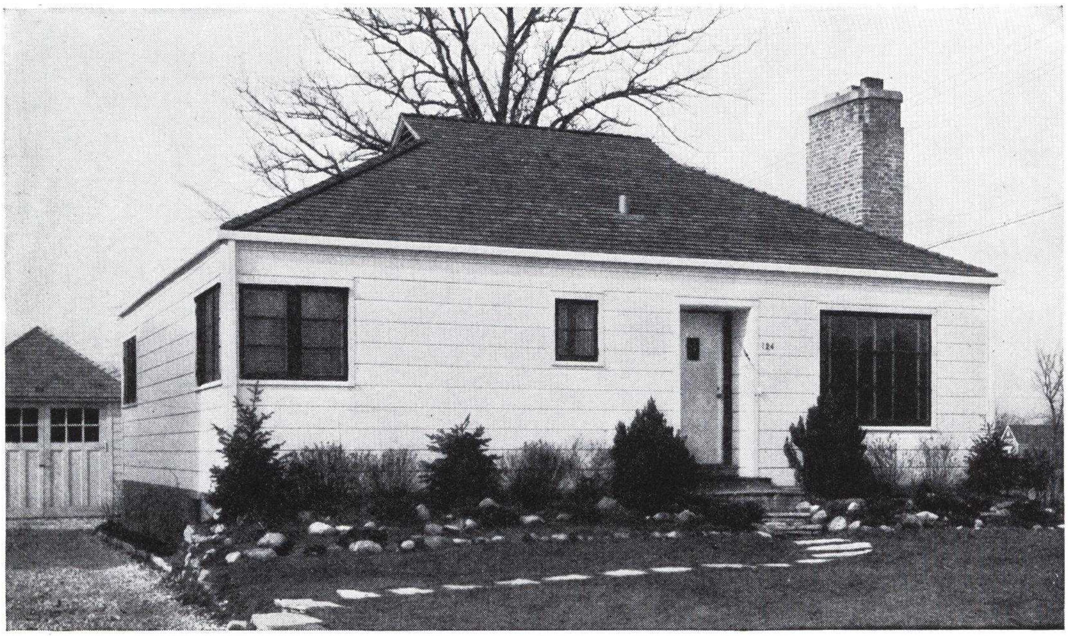
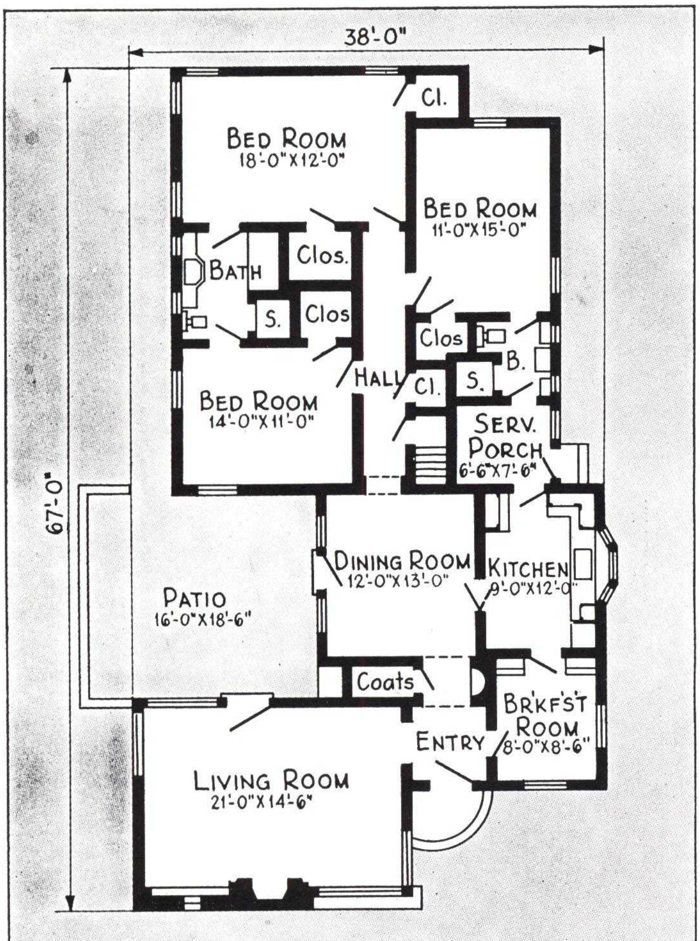


OTHER construction and equipment items include Celotex sheathing and Balsam-Wool in outside walls; metal lath with sand float finished plaster ceilings, rock wool batts above; red cedar shingle roof; U.S. steel furnace and winter air conditioning system; cork block floor in bath and Kohler fixtures; two compartment kitchen sink; custom flush lighting fixtures.

CALIFORNIA BUNGALOW OF 7 ROOMS DESIGNED FOR A 50-FOOT LOT

Built in Los Angeles by Homes Inc.

Designed by Nelson P. Bengston



FLOOR PLAN

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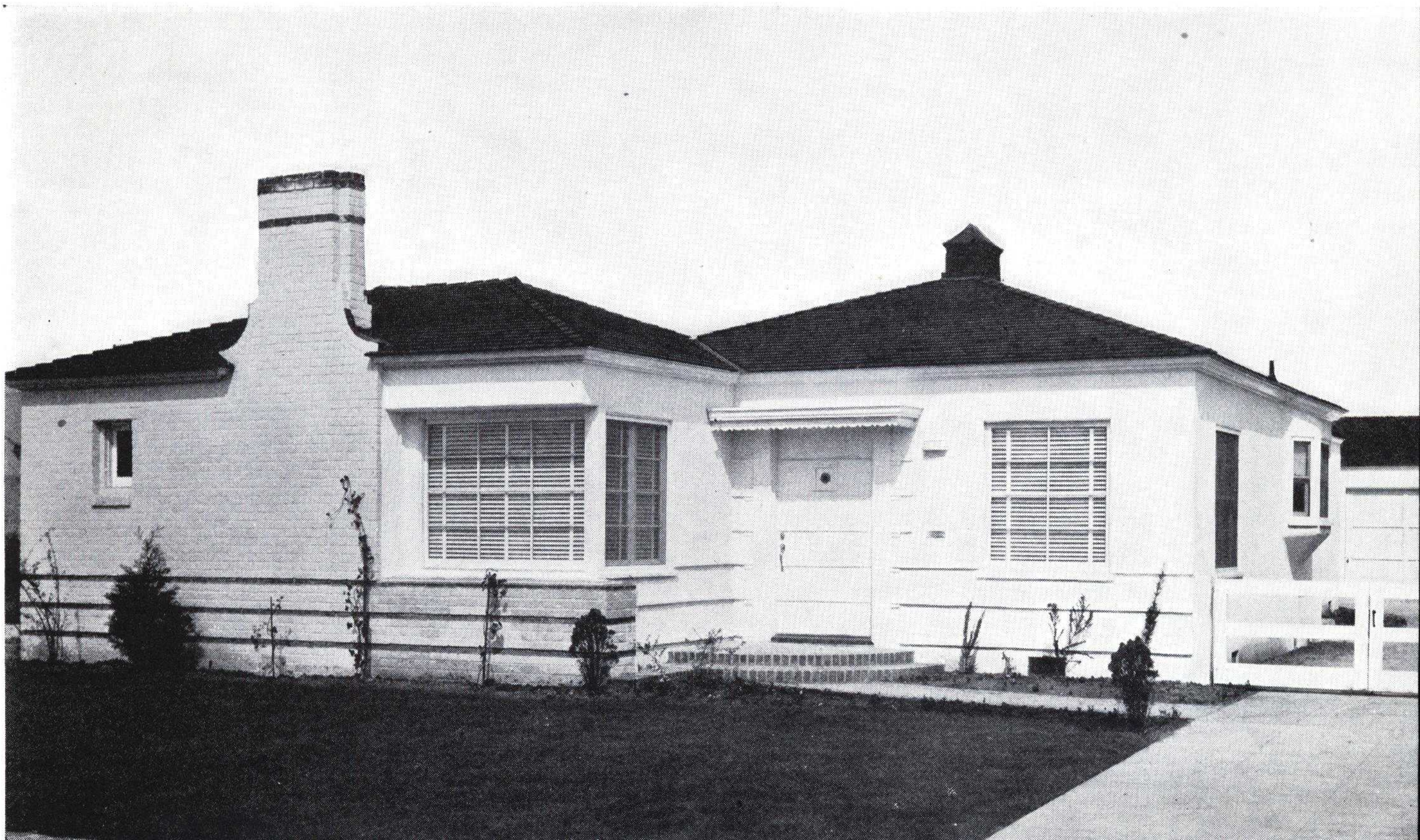
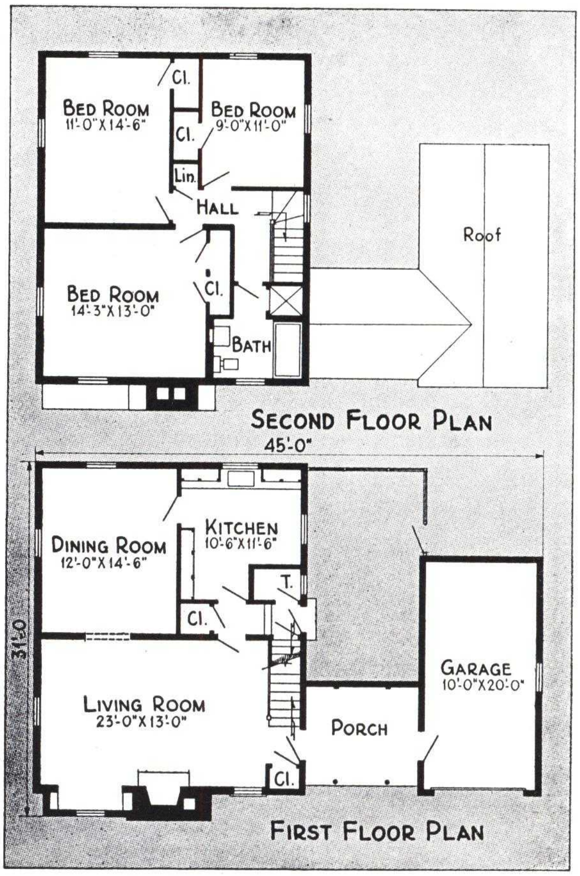
LIKE THE DESIGN on the opposite page, the house below has a clean-cut appearance and is detailed in a modern manner. Low, horizontal lines are accented with living room corner window and front entrance providing a center of interest. The plan is arranged in Southern California fashion—good ventilation and enclosed patio for outdoor living being typical of houses in that section. A breakfast room of generous size is entirely separated from the kitchen and might be used also as a study or extra sleeping room. Connecting baths give good circulation to the rear of house.

THE EXTERIOR is stucco over wood frame except the brick section flanking the chimney; the two materials are especially well combined. Roof is red cedar shingles; floors are of oak. Unit heaters are installed in principal rooms. The bathroom is floored with rubber tile and walls are finished in Bak-A-Namel, this product also being used in the kitchen. Tile drainboard and backsplash, monel metal cabinet top at range and revolving ant-proof cooler are other kitchen items.

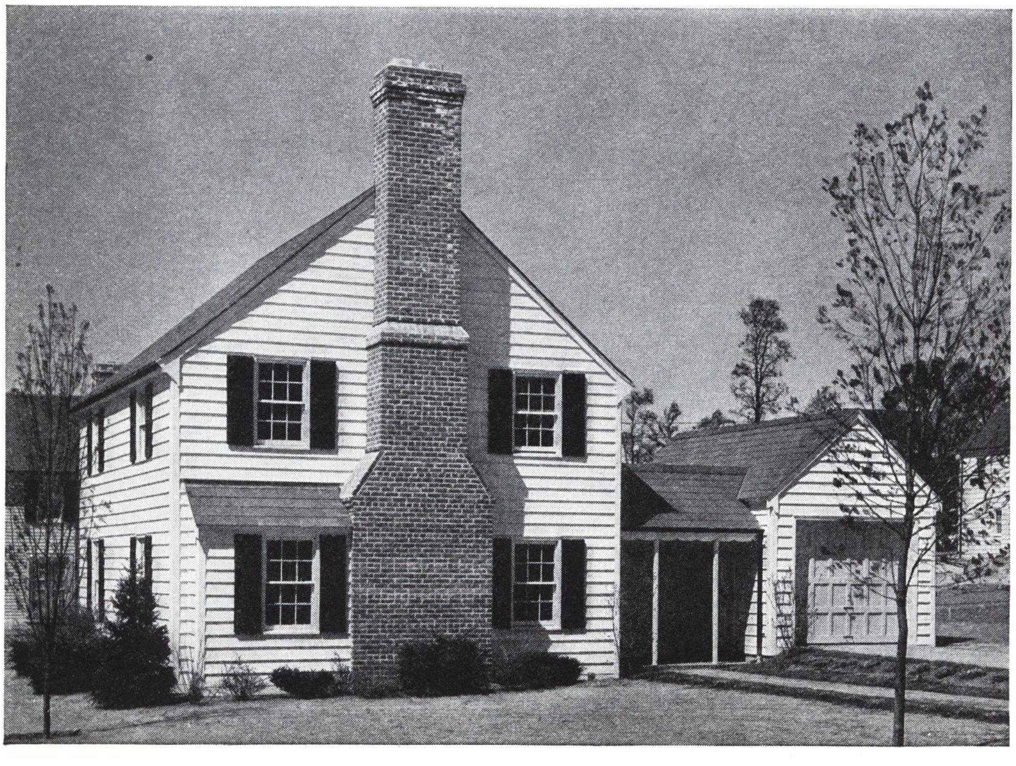


"WILLIAMSBURG HOUSE"

Kimball and Husted, Architects



THE COLONIAL CHARM of Old Williamsburg was embodied in this model home designed by Kimball and Husted and built at Port Washington, N. Y. Living room above features a simple, Colonial mantel and an especially attractive window seat with built-in bookcases. The house itself is a compact design, increased in size by the attached garage, and designed for a corner lot. The walled court at rear, between the garage and kitchen, is an unusual and attractive feature.



ALTHOUGH main part of the "Williamsburg House" is only 24 x 29 ft., an appearance of size considerably greater than this is achieved by the design. The living room, with its large fireplace and attractive window alcove, has a spacious appearance. The covered porch connecting entrance and garage is attractive.

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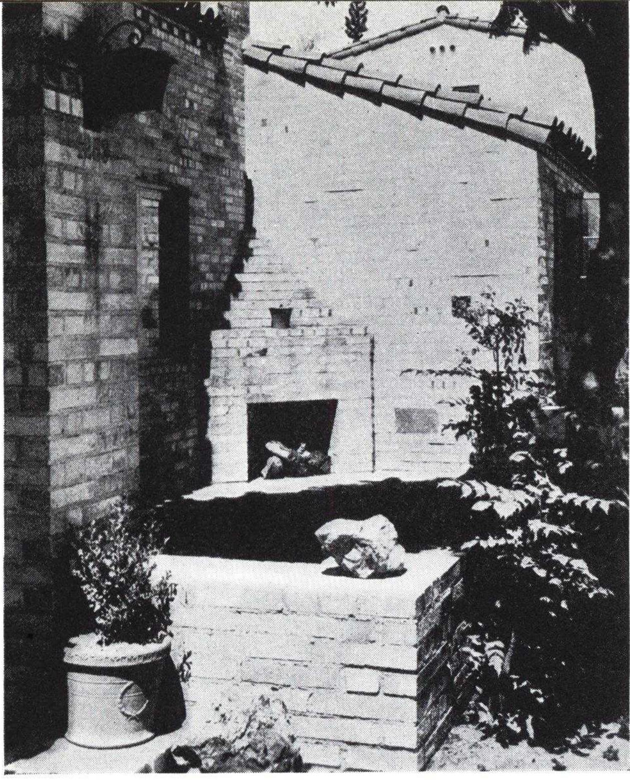
UPSTAIRS, the "Williamsburg House" has 3 good bedrooms with unusually well laid out closets. Rooms are well lighted and cross ventilated.



6 ROOMS AND 2 TERRACES

ANOTHER Los Angeles home is shown below and this one is more typical of the California style 6-room bungalow. Honorable mention was recently awarded to the designer, George J. Adams, when it was submitted in the Clay Products Competition. The brick walls, tile roof and terra cotta decoration combine very well.

A good sized living room at a lower floor level divides the sleeping quarters from the dining and service wing. The latter consists of dining and breakfast rooms, kitchen and service porch with laundry tray and toilet, all compactly and conveniently arranged.

ABOVE: The front terrace is enclosed by a low wall and has a fireplace located in one corner; another terrace at the rear gives additional space for enjoyable outdoor living.

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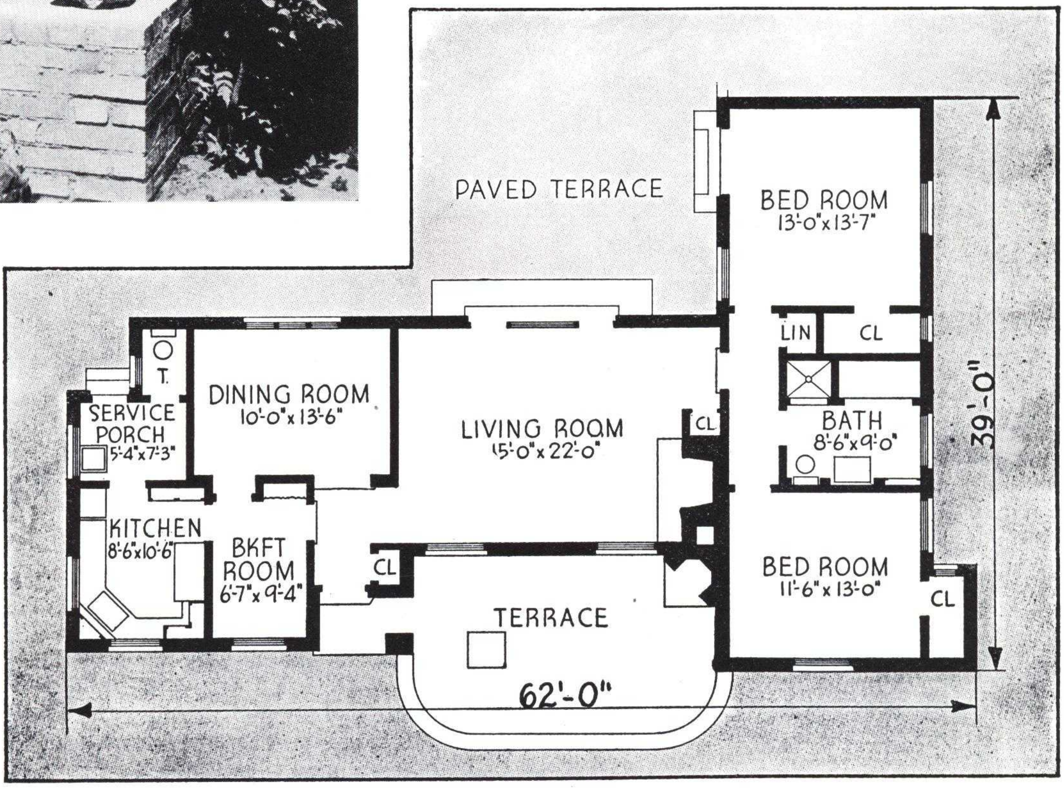

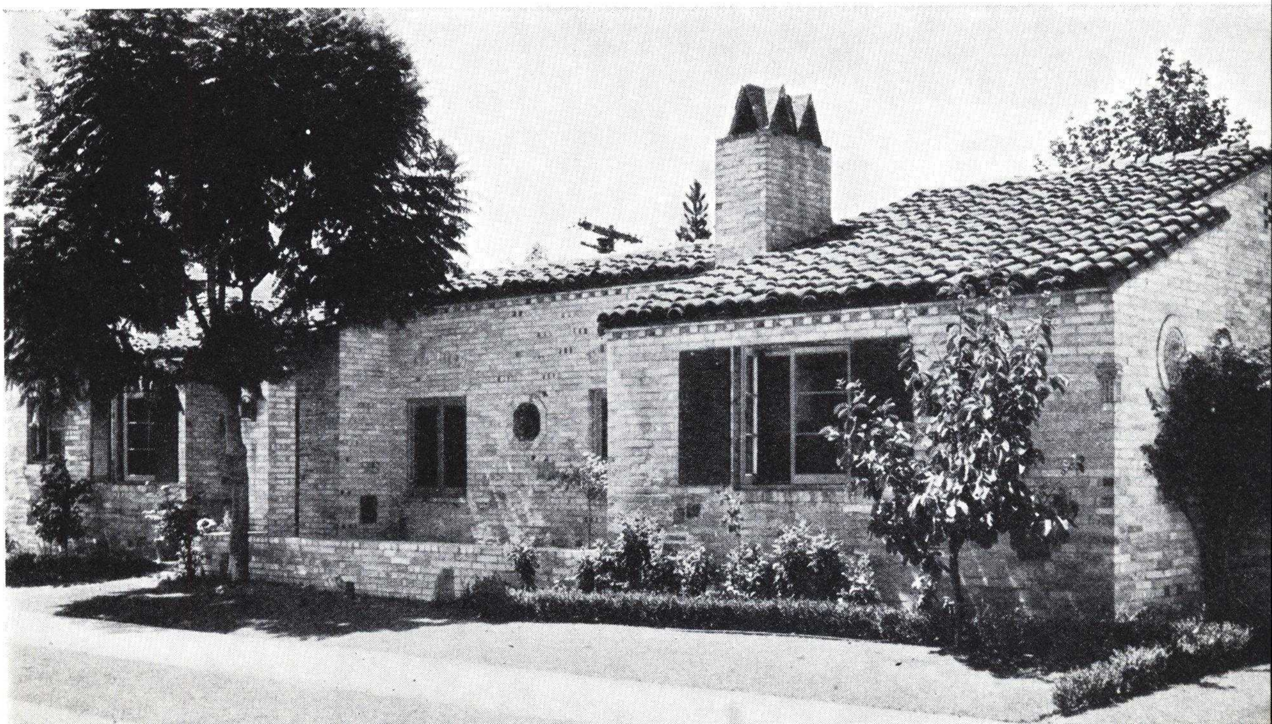

NEW ENGLAND COLONIAL IN OHIO

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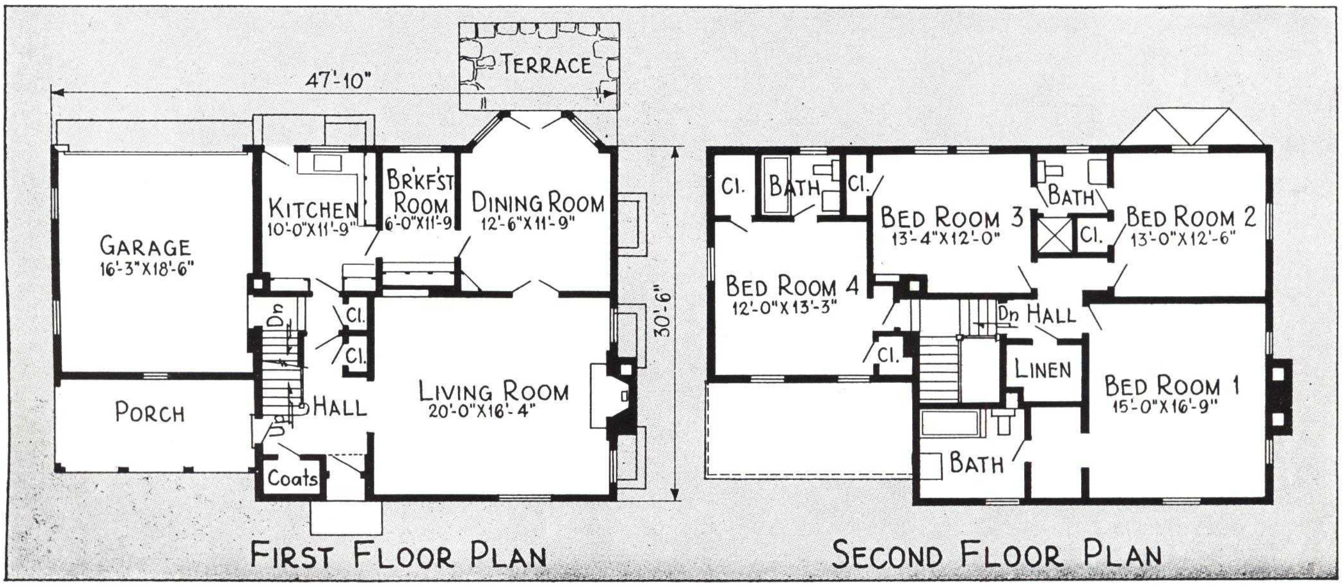
Maxwell A. Norcross, Architect; Olsen & Johnson, Builders

SET BACK on a wooded lot, this picturesque white shingle and stucco home near Cleveland is most attractive. The slag drive winding across the little culvert bridge in keeping with the house adds to the effect. Fine detailing is found inside an dout as shown in the views above and on the preceding page. Plans appear below; front and rear flagstone terraces allow pleasant outdoor living in the shaded yard; adequate facilities are arranged to comfortably house a good-sized family.

Construction features include: Perma-Stain shingle roof; Toncan gutters and flashings; rock lath interior, metal lath exterior under stucco; rock wool insulation in walls and ceilings; Overhead garage doors; Bryant winter air conditioning; select white oak floors throughout; wood rail, stained oak treads, gum risers painted white on stairs; all copper piping; linoleum floors, Linowall wainscot, Sanitas wall and ceiling in bathrooms; Standard plumbing fixtures; white pine exterior trim; pine and birch interior trim; electric range and refrigerator, built-in kitchen cabinets; basement play space.



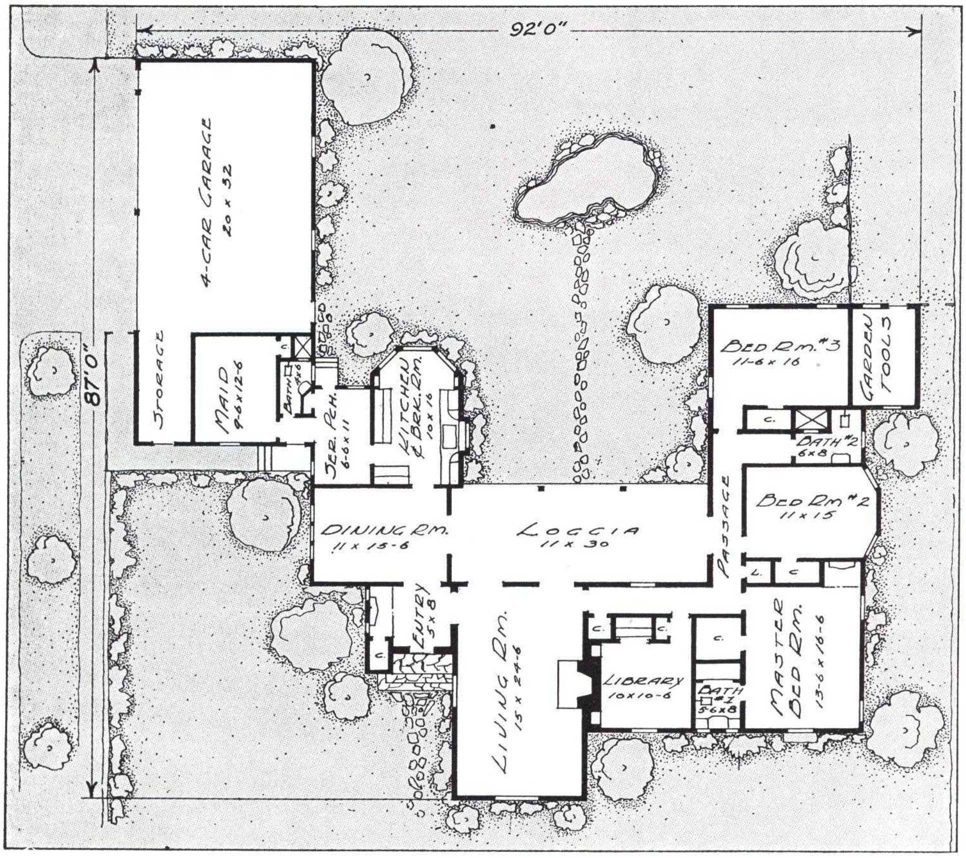
CORRECT DETAILS GIVE CHARM AND VALUE TO HOMES

If properly styled to the type of house, details can add lasting enjoyment and greater salability. Home Design page opposite shows these examples of fine detailing.

THE INTERIORS shown on this page are found in a New England Colonial type house designed by Architect Maxwell A. Norcross and constructed near Cleveland, O., by Olsen and Johnson, builders. The equally attractive and well designed exterior, together with floor plans, appears on the next page. The view above of the fireplace in living room as seen through the dining room doorway shows the well detailed Colonial mantel. The stair hall at the right presents a graceful balustrade leading up over the round headed door to the small rear hallway.

STYLED FROM AN EARLY CALIFORNIA RANCH HOUSE

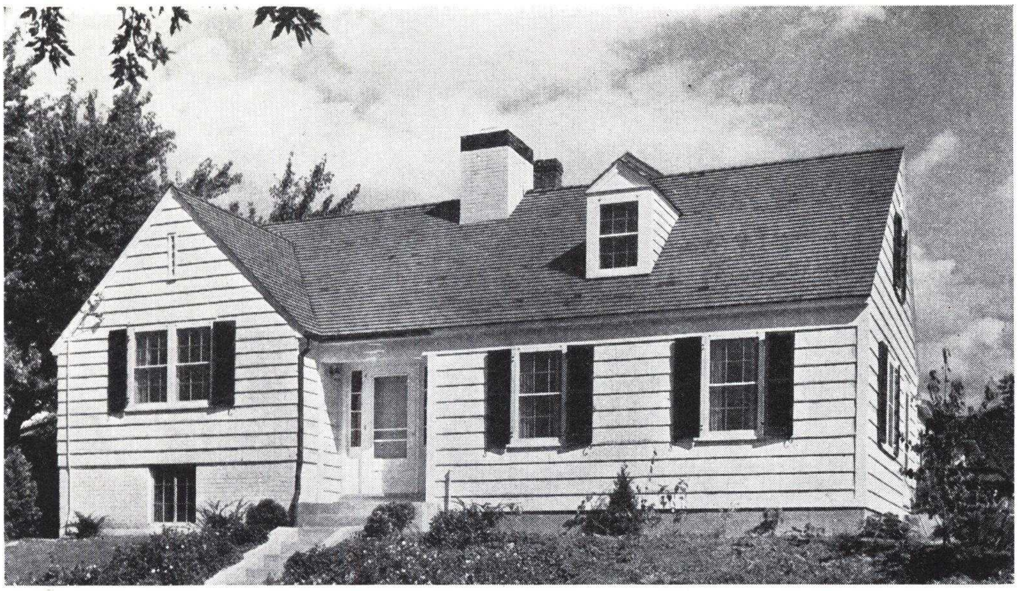
THE attractive loggia at the rear of this home in North Hollywood, Calif., carries out the early California ranch-house pattern of a garden patio; Arthur E. Harvey, Los Angeles, architect and builder.



THE HOUSE as seen below takes on a set-back appearance with the rooms, all on one floor, jutting out beyond each other to provide plenty of sunlight. Floor plan allows for the following rooms: Living room, entry, library, master bedroom, two other bedrooms with bath between; dining room, kitchen and breakfast room, service porch, maid's room and bath. Living room faces north and east, with French doors opening on rear dining terrace shown above.

Construction features include concrete foundation and reinforced footings; exterior of frame, white stucco and knotty pine; cedar shingled roof and a clay tile ridge; redwood window grilles and shutters; oak floors; Standard plumbing fixtures; Celotex insulation; Johnston forced air unit heating system.

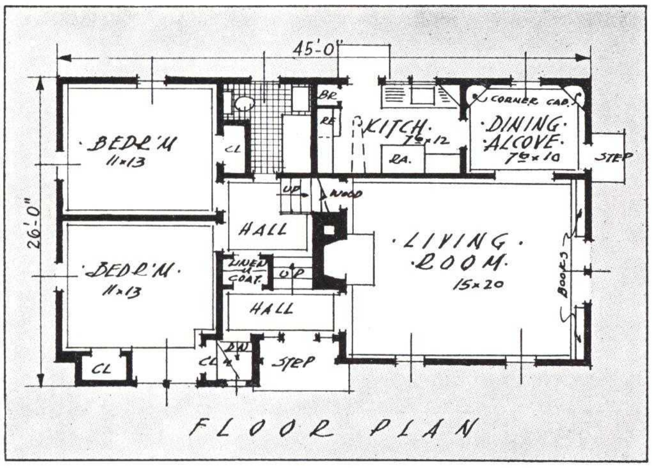
AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 172



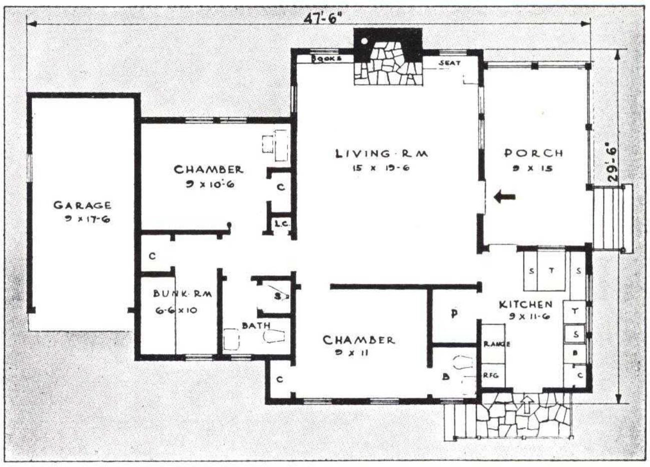
TWO-LEVEL 24' X 45'

A LARGE GAME ROOM with above-grade windows is provided underneath bedrooms. Hall and bedrooms are several steps above the level of the living room. Linen closet is directly over coat closet. Wood box beside fireplace has opening directly to cellar stairs.

AMERICAN BUILDER TruCost FIGURES FOR THESE HOUSES ON PAGE 172



ARCHITECT THEODORE WHITEHEAD DAVIS and Builder R. A. Rice of Port Washington, L. I., built this compact, corner-lot house, which has a cubage of only 21,500. Specifications include Kewanee steel boiler, Pioneer oil burner, Balsam Wool insulation, Arco recessed radiators, brass pipe, oak floors. Bedrooms and bath are separated from balance of house in a desirable manner.



COMFORT COTTAGE

DESIGNED by Architect Chas. G. Hehn to overlook Lake Candlewood at New Milford, Conn., this little cottage has many comfort features. Living room is finished in Norway pine, stained natural, with a 1½-story ceiling and stone fireplace. Kitchen is conveniently located.

ENTIRE COTTAGE is sheathed with Celotex insulation board, over which are placed red cedar clapboards, painted white, with dark green blinds and flower boxes.

THE TRIM little brick house at the left is one of a group built for sale in the suburban Milwaukee town of Lake. No two houses are alike and all are financed under FHA mortgages. Good construction and compact design assure low cost and maintenance.

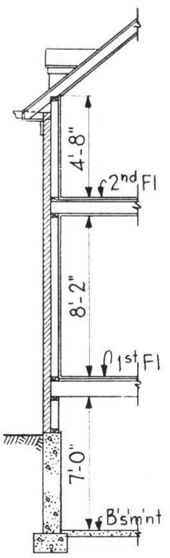
AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 172

SMALL, ECONOMY HOME WITH COMPACT 5-ROOM LAYOUT IN 25x23 PLAN

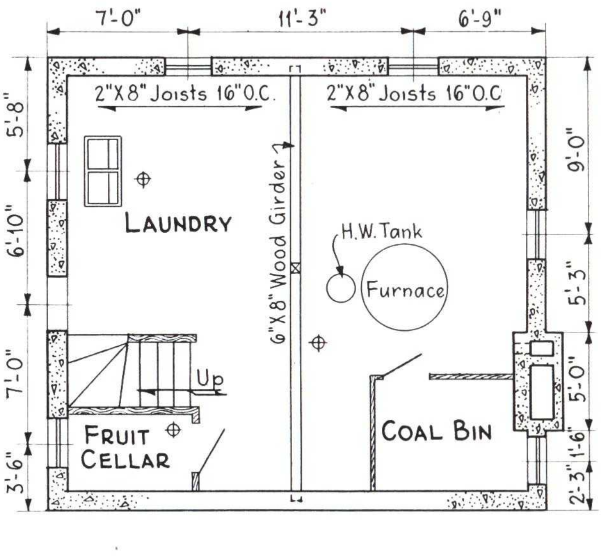
Built in Milwaukee, Wis., L. E. Stanton of Badger Small Homes, Inc., Builder

THE UNUSUAL space economy of this house is evident when one realizes that five rooms of moderate size are arranged within the small over-all dimensions. The 25-foot width allows placement on as little as a 35-foot lot although such small sites are being used less frequently today; as shown above, the lot frontage is 42 feet giving good light and air.

The bedroom closets are of generous size while second floor hall area is kept to a minimum. The stairs, front entrance vestibule with closet and service entrance are well organized in one corner of the first floor plan. The full basement has enclosed fruit cellar and coal bin.

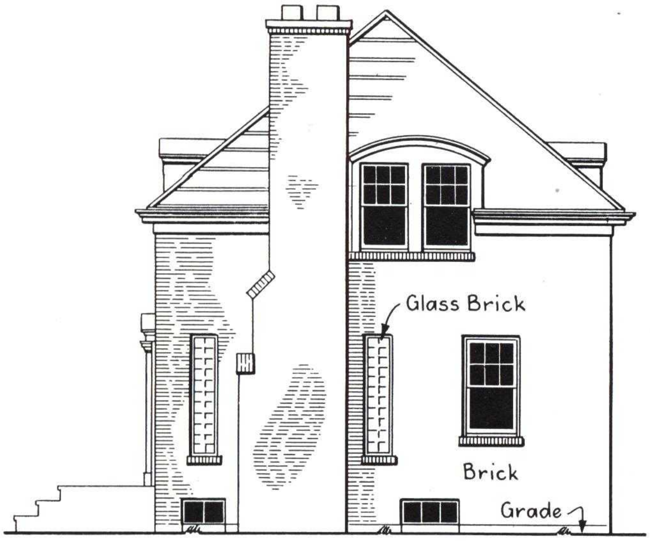


WALL SECTION

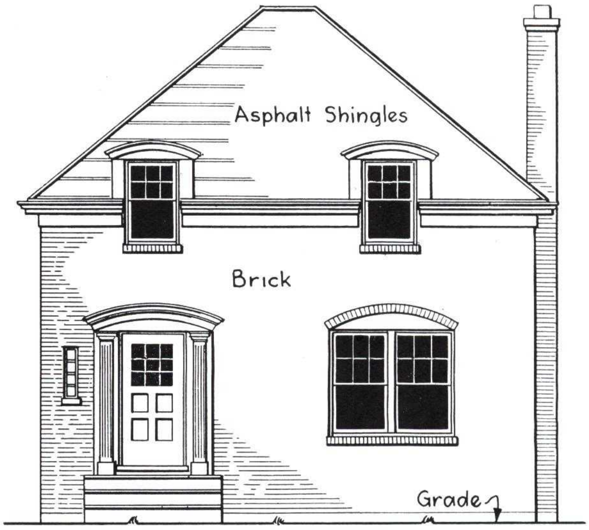


BASEMENT PLAN

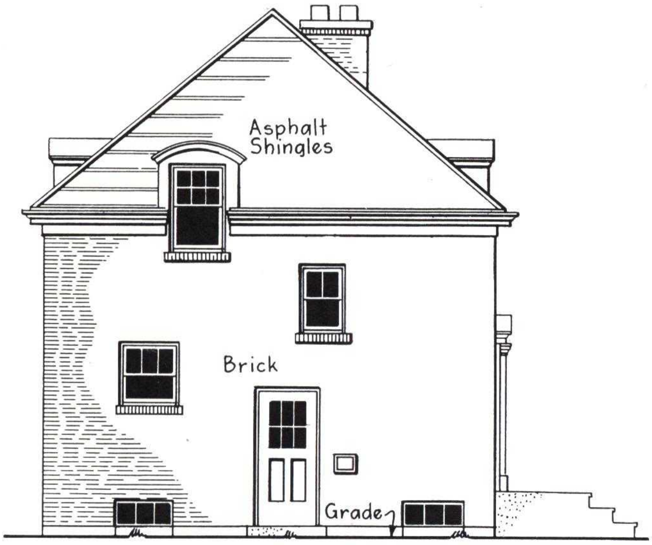
DETAILS of construction show wall section, plans and elevations. Included in the sale price are such features as single detached garage, complete landscaping, drain tile around footings, insulation, plaster over Rocklath, combination doors and copper screens and natural fireplace.



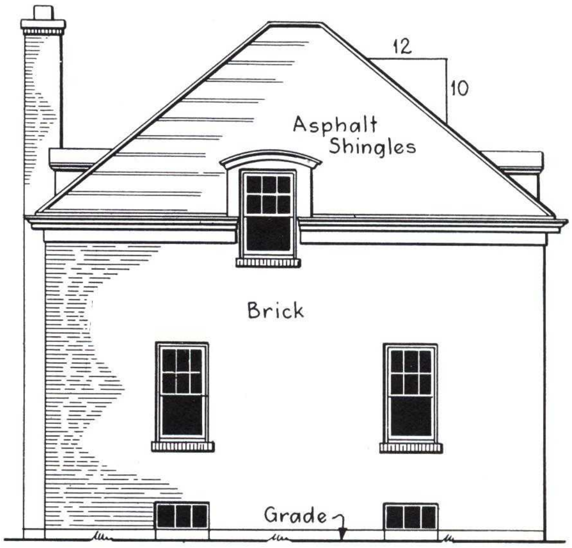
Right Elevation



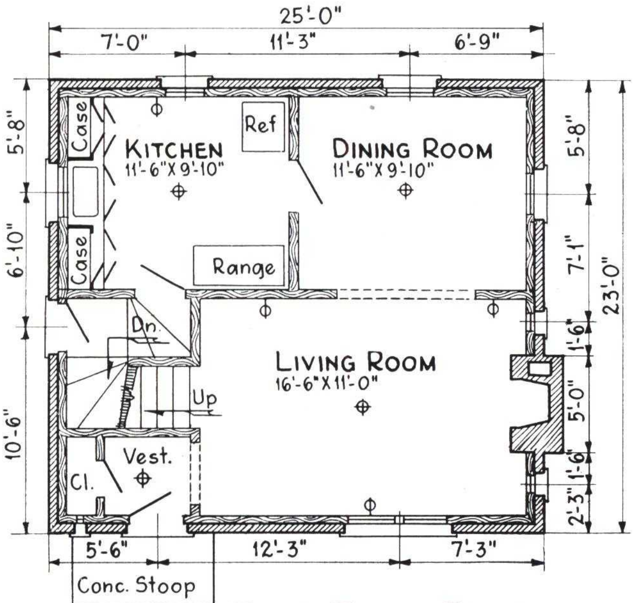
Front Elevation



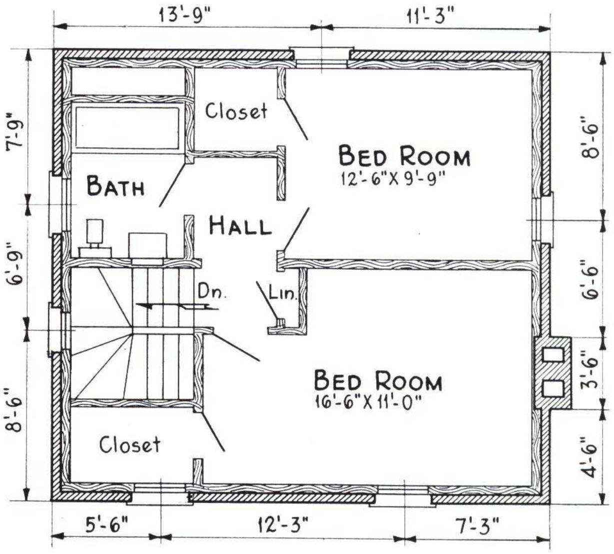
Left Elevation



Rear Elevation



First Floor Plan



Second Floor Plan

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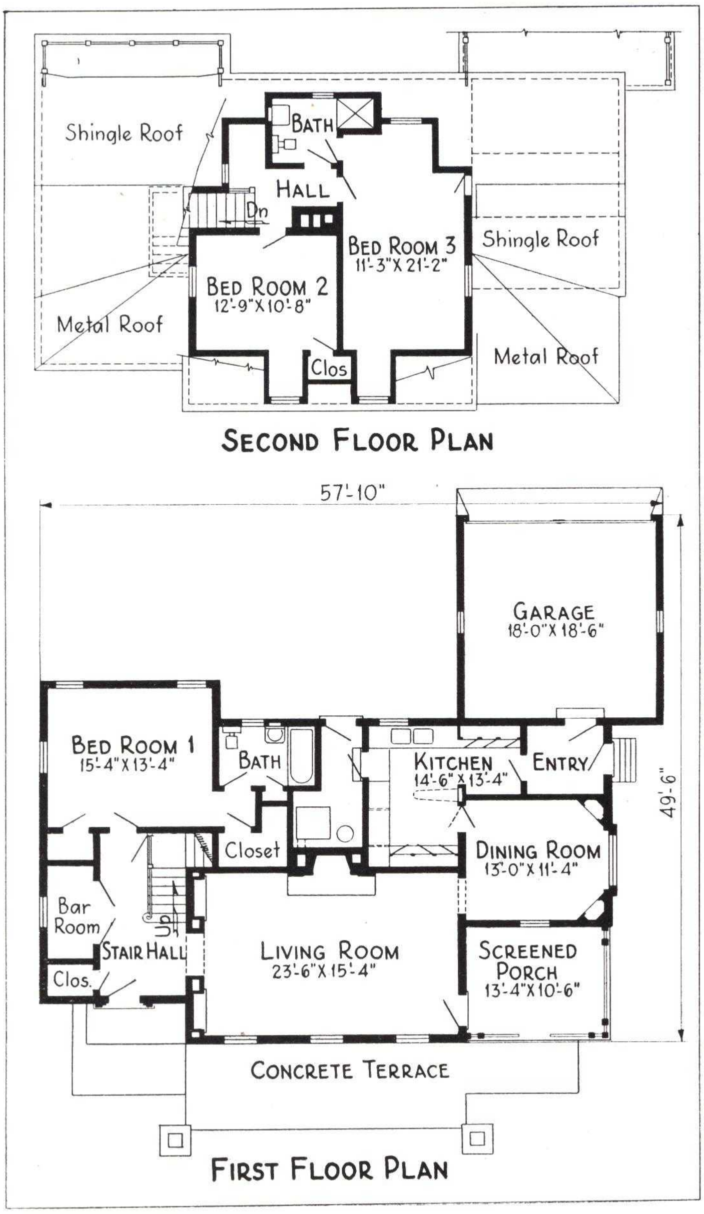


ALL HARDWOOD HOME BUILT FOR 300 YEARS IN MONTGOMERY, ALA.

George Mahan, Jr., Memphis, Architect

Bear Lumber Co., Montgomery, Builder

BECAUSE it is expected that this home will withstand at least three hundred years of service, it has been named "The Home of Three Centuries." It is built entirely of cypress and finished throughout with choice native Alabama hardwood. The sills, joists and framing, as well as the sidewalls, are built of this long lasting wood. J. H. Flack of Cathey-Flack Hardwoods, Inc., opened it to public exhibition, and during two weeks more than 20,000 people visited it. With some fifteen different species of hardwood used for interior finish, the home provides a demonstration of interior beauty and durability. Some of the woods used are oak, walnut, ash, magnolia, maple, beech, sycamore and red gum; the three interior views on the opposite page show how they were applied.

THE floor plans at the left indicate the interior arrangement of six rooms and attached garage. One bedroom with bath is located on the first floor. A utility room replaces the basement. Except for rock wool in the attic, double walls are utilized for insulation; a second layer of sheathing for panel backing is used in the outside walls, and there are also two layers of roof sheathing and sub-flooring. The roof covering is Eternit asbestos shingles with copper valleys and flashings. A Williamson warm air furnace and Stokol coal stoker provide the heating system; Crane plumbing fixtures and Corbin solid brass hardware were used.

THE living room view toward the entrance hall shows the walls of wide solid paneled oak in natural finish. The ceiling is of paneled gum, and the floors of wide smoothly finished red oak. A close-up view of the fireplace is shown on the second page preceding this.

THE main walls of the dining room are paneled with wide solid vertical plank and mouldings between joints of red oak. Cove cornice is black walnut, as are the two corner cabinets. Ceiling is of tupelo gum plywood with recessed stiles forming a pattern.

UPSTAIRS, bedroom No. 2 has walls of V-joint tupelo gum plywood set off with sap trim. The ceiling is of the same wood as the walls, all finish being painted. Doors throughout are of red gum.

TWO RAMBLING COLONIAL HOMES WITH FINE DETAILS —ONE FOR THE CITY

White and Weber, Chicago, Architects

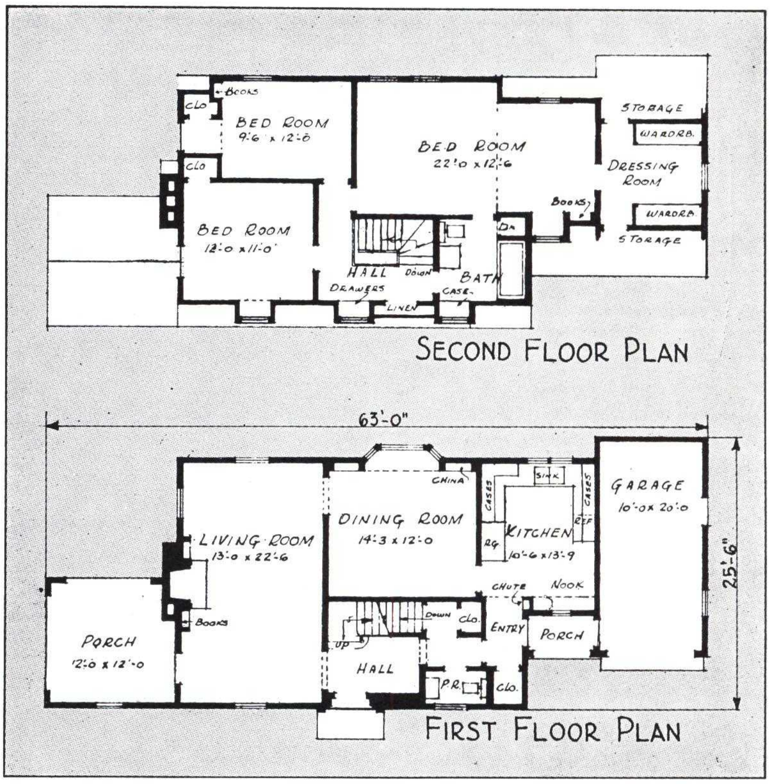
Ralph H. Heth, Designer

THE HOME below is located in a Chicago suburb and, being 63 feet long, is placed lengthwise on a corner lot. Like the White and Weber country house illustrated, it has an unusually good plan and fine detailing. Circulation on both floors is carefully worked out; on the first floor a small rear hall connects the basement stairs, lavatory, closets, rear entrance and kitchen. The rear porch connects with garage and a window from it lights the well placed breakfast nook. Second floor bath has access from both hall and master bedroom. Ample storage space is provided by closets, wardrobes and drawers.

The exterior is well proportioned and pleasingly detailed on all elevations. Cedar shingle walls stained white and properly set dormers contrast nicely with the blue-black roof. The screen wall across the front of the porch adds length and assures privacy.

Other construction features are as follows: Foundations, concrete; partitions, 2x4" studs, Sheetrock; floors, oak, except bath, powder room and kitchen and kitchen entry which have linoleum floors; porch floors, colored concrete, scored. Interior finish, pine paneling on fireplace wall; wallpaper walls and painted ceilings throughout except kitchen which is painted, walls and ceiling; dado rails in living room, dining room and hall. Wiring, rigid conduit; lighting fixtures, of special design; heating, forced warm air, oil heat. Kitchen cases, wood; plumbing, Standard fixtures, galvanized iron piping. Windows, double hung casements, weatherstripped; insulation, 4" Rockwool, ceilings and walls; roof, asphalt shingles, thick butt blue-black, two in one; exterior walls, 24" wood shingles 12" to weather, stained white, on sheathing.

THE HOUSE on the opposite page is located in a rural section near Chicago and was designed for a tenant farmer; later, it will be altered for the owner's use. Although it has the appearance of a large country home due to over-all length, the actual cost was moderate. The additional bedroom will have a separate entrance off the future loggia and can be used by a hired hand or guests. The present office then becomes the living room and the balance of the former living room will be the library or office with hall and bath.

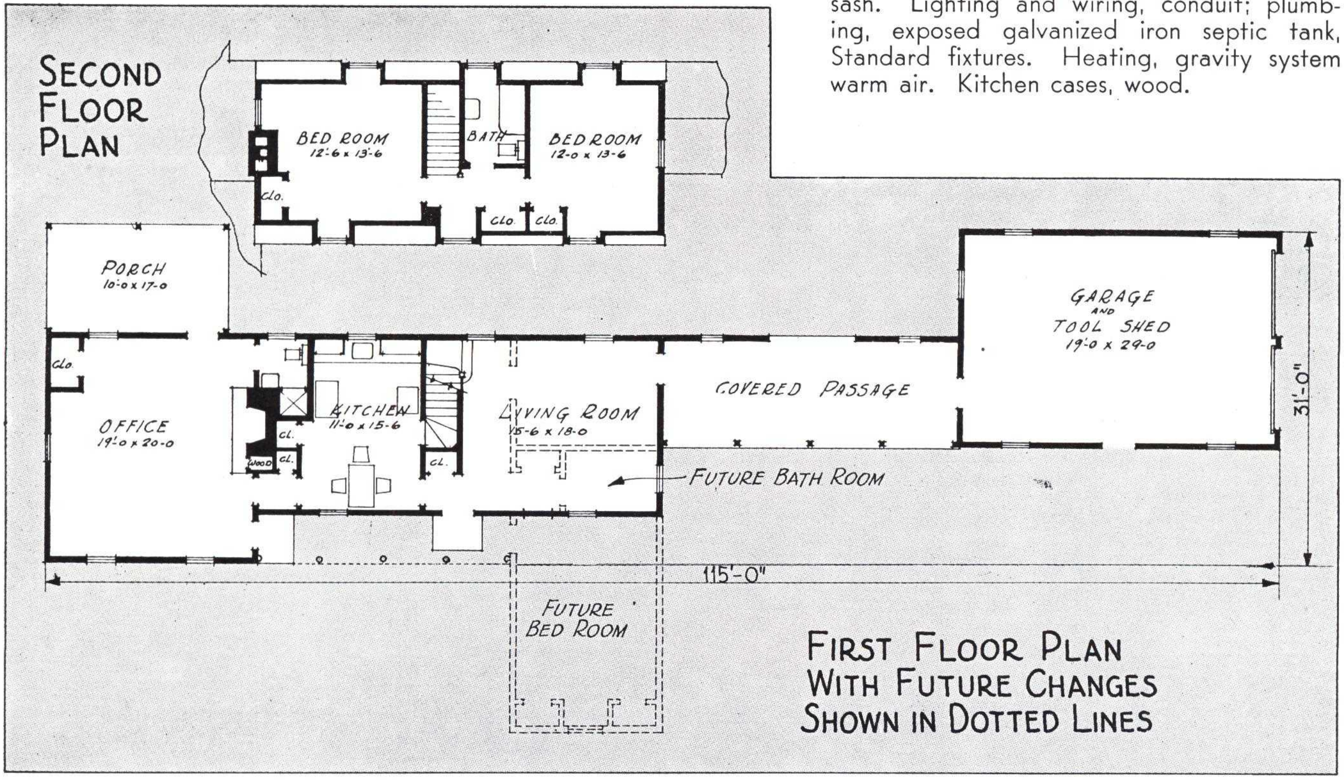


AMERICAN BUILDER TruCost FIGURES FOR THESE HOUSES ON PAGE 173

—ONE FOR THE FARM

THIS tenant farmhouse with connecting passage to implement shed-garage, as shown at the right, will later become the owner's house when future changes indicated in dotted line are made. The following is an outline of construction:

Foundation, concrete; exterior walls, drop siding 4½" to weather on Bildrite sheathing; partitions, 2x4" studs, Sheetrock; floors, pine, except concrete in office. Interior finish, plywood in office, wallpaper on walls and ceilings throughout; roof, wood shingles 5½" to weather, not stained; insulation, 1" Balsam-Wool; windows, wood double-hung and storm sash. Lighting and wiring, conduit; plumbing, exposed galvanized iron septic tank, Standard fixtures. Heating, gravity system warm air. Kitchen cases, wood.



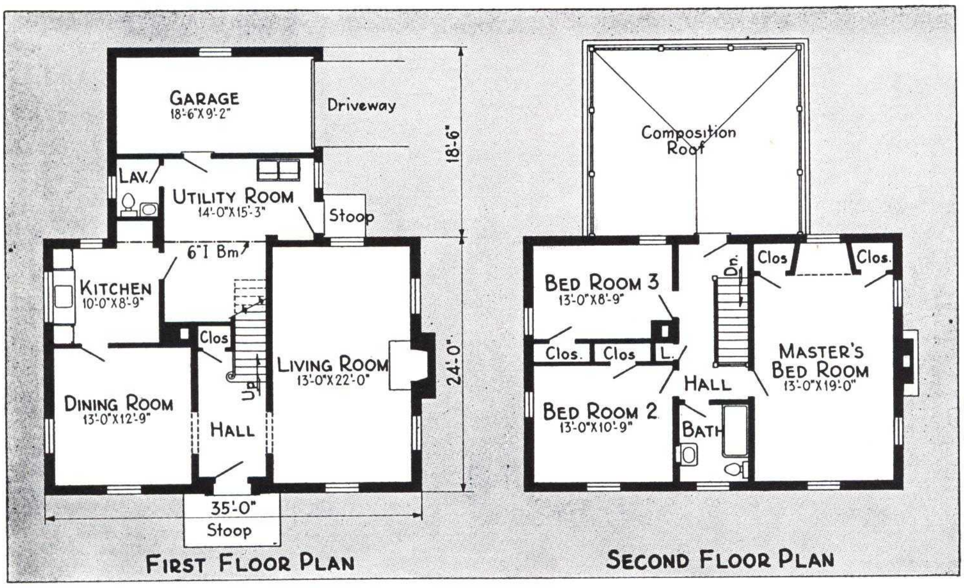
Progress in Planning Basementless Houses

RECENTLY there has been a spread of basementless houses into sections of the country where heretofore severely cold winters have made such construction impracticable except for summer purposes. Some of the factors responsible for this development are: new heating plants which can be placed at the first floor level, construction which assures a warm floor, and the realization that frequently underground cubage represents little used space.

Of course most of the houses being built in the northern section of the country still have full or partial basements, largely because people accepted them as necessary after living in older houses. Previous articles in the *American Builder* have covered the advantages of building both ways, those for the utility house being the overcoming of unfavorable excavating conditions, bringing the laundry up to first floor level for greater convenience, allowing the house to be placed close to grade, and giving space economy where fuel or household storage is of minor importance.

The E. E. Olsen Construction Co. of Pittsburgh, Pa., has done much in that locality to popularize the utility type of house. Their operations in developing a practical procedure were discussed in *American Builder,* July, 1937. One of their most recent houses without basement is shown on this page. As can be seen in the exterior view, there is no suggestion that the house is of other than standard construction, except that it fits nicely to the site. The utility room is cleverly placed between the attached garage at the rear, and the main portion of the house. It is ample in size and conveniently located. The layout is one of the Olsen basic plans adaptable to different exterior treatments, so that no two houses appear alike.

Regarding developments in the heating of these houses, the builders point out that the ceiling height has been brought down in their currently planned houses about 14 inches, which adds to the ease of heating and at the same time gives greater comfort to the occupants. The heating plant, being centrally located, is in its most efficient spot for operation. By actual record these homes are being heated for about $60 a year with gas at the rate of 55 cents per 1,000 cubic feet.



THE house shown at the left with plan above is one of the basementless utility houses built in Pittsburgh, Pa., by the E. E. Olsen Construction Co. It contains six rooms, utility room and garage. Reinforced concrete first floor slab is dampproofed with a two-ply membrane.

The Olsen method of operation is to complete one group of houses at a time, in which the units are related in the matter of architectural design, floor heights and placement. Each new home provides further proof as to the practicability of that basic utility house plan, and thereby lessens sales resistance to the idea.

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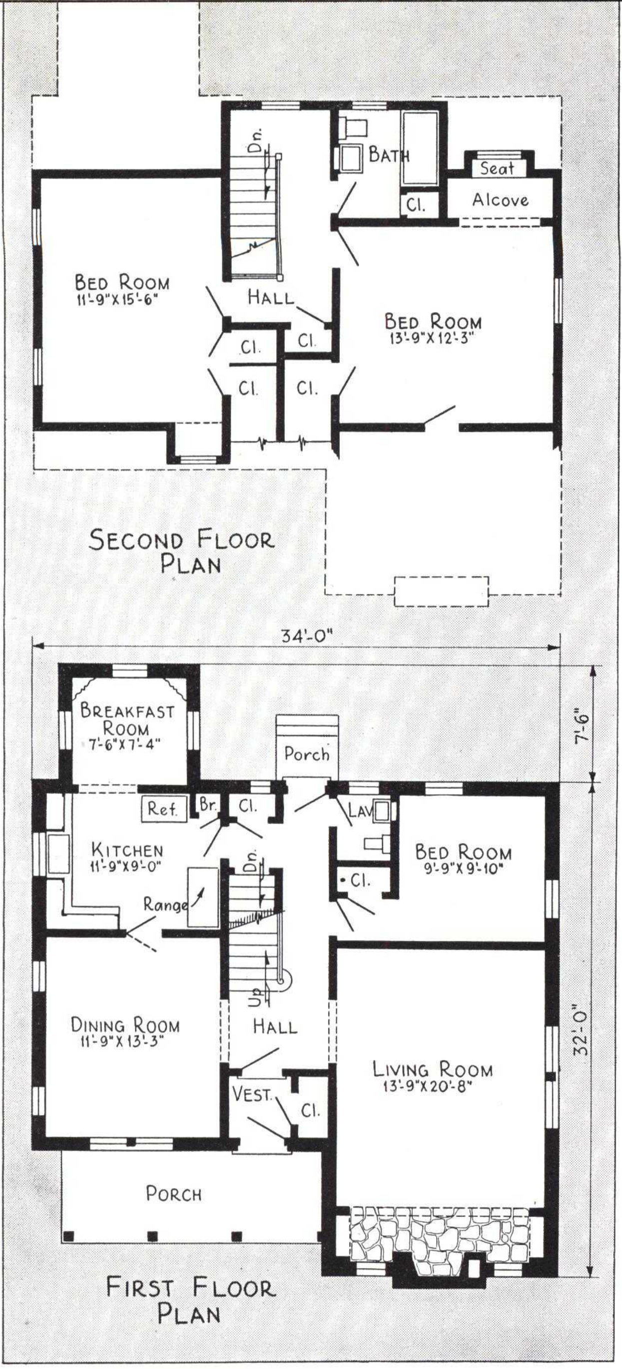


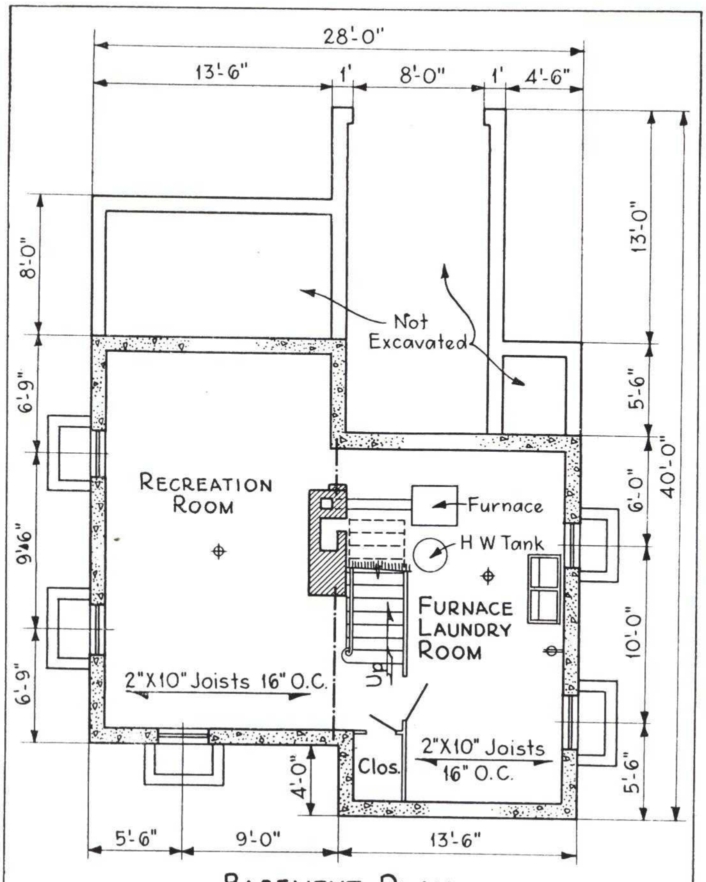
BREAKFAST ROOM AND FIRST FLOOR BEDROOM POPULAR IN DETROIT

Built by Knight-Menard Building Co.
Ted Wilkins, Detroit, Architect

THE TYPE of house shown below with floor plans at the left has proved to be extremely popular in Detroit. It is of the center hall type, but has the living room wing extending to the front, the end of which features a fireplace nook with wide hearth and built-in shelves. There is no through traffic in this room. Dining room, kitchen and well lighted breakfast room with corner cabinets are grouped opposite. A first floor bedroom with lavatory is conveniently placed for maid or guest. On the second floor there are two good sized bedrooms with bath, and adequate storage space. One of the bedrooms has a handy alcove and window seat.

Exterior is unpainted common brick on the first floor with white clapboard above and a red cedar shingle roof. Other construction features are as follows: Footings, poured concrete with felt insulator and tile drains; foundations, concrete block double waterproofed; rough lumber, full dimension thoroughly dried and graded; insulation, 4" rock wool all exposed walls and ceilings; windows, P. & H. Weathertight, weightless, prefit frames and sash; plaster base, rock lath reinforced with fabricated steel over lintels, coves, inverted corners, all exposed corners protected with corner beads; trim, all interior woodwork kiln dried, stock trim, oak floors; tile work and linoleum, kitchen and bath floor, inlaid linoleum, bath walls and sink back asbestos wall tile.

AMERICAN BUILDER
TruCost FIGURES
FOR THESE HOUSES
ON PAGE
173



Basement Plan

COLONIAL WITH ATTACHED GARAGE

Cheel Construction Company, Builder
J. Norman Hunter, Architect

A LARGE AMOUNT OF CHARM, comfort and livability are built into this little Colonial house in Cheelcroft, the attractive subdivision of Harold W. Cheel at Ho-Ho-Kus, N. J. The approximate basement dimensions are 28′ x 23′. In this small space Architect J. Norman Hunter has contrived to include a 13′2″ x 22′2″ living room and a master bedroom that is 12′2″ x 18′2″ in addition to the smaller bedroom, bath, dinette and kitchen. The garage is attached at rear in a clever fashion, with direct entrance off the kitchen.

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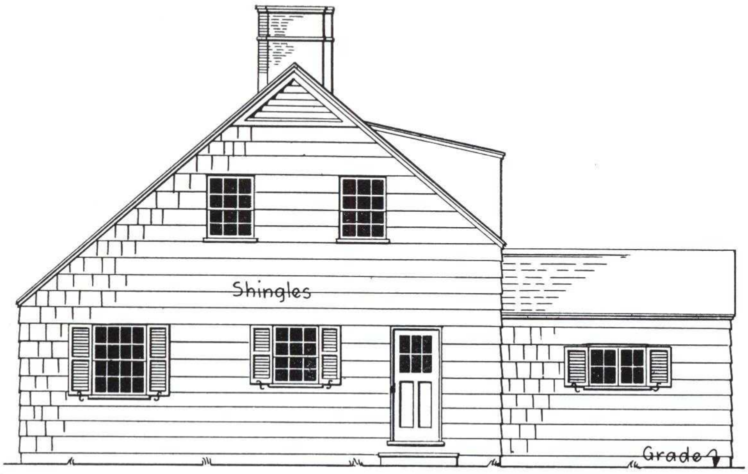
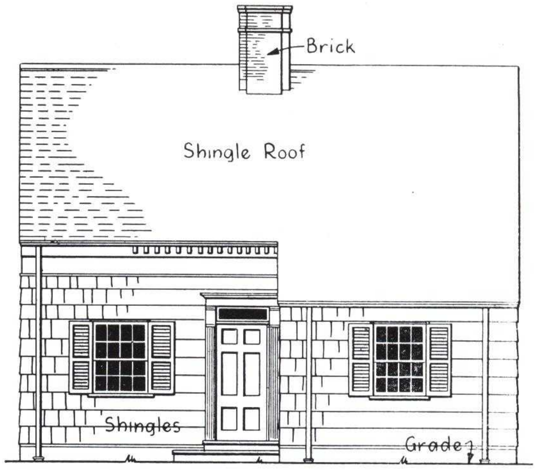
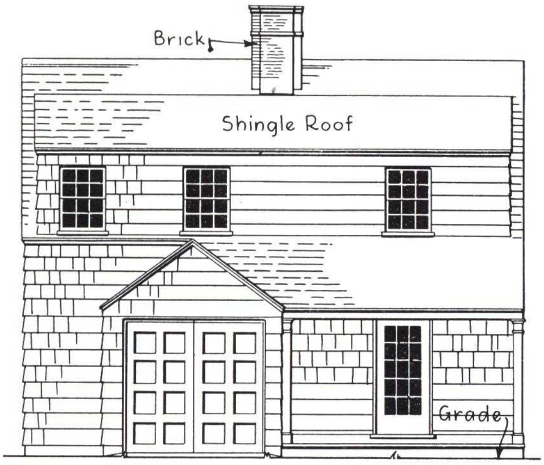
THE HOUSE looks bigger than it actually is due to the carrying of the roof line down over an open porch at rear, which is reached by a French door from the living room. This makes an attractive spot for the family to sit on summer evenings. A clothes closet is located just beside the front door, and there are ample closets in the bedrooms. A separate tile shower compartment is provided. Space for a good-sized future recreation room is provided in the basement.



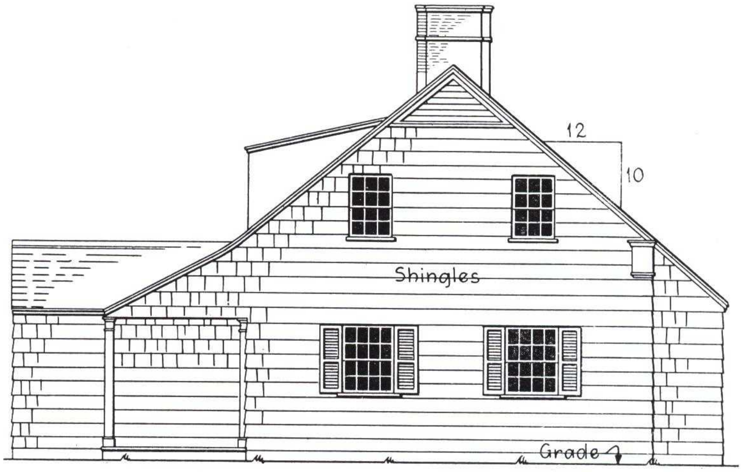
RIGHT SIDE ELEVATION



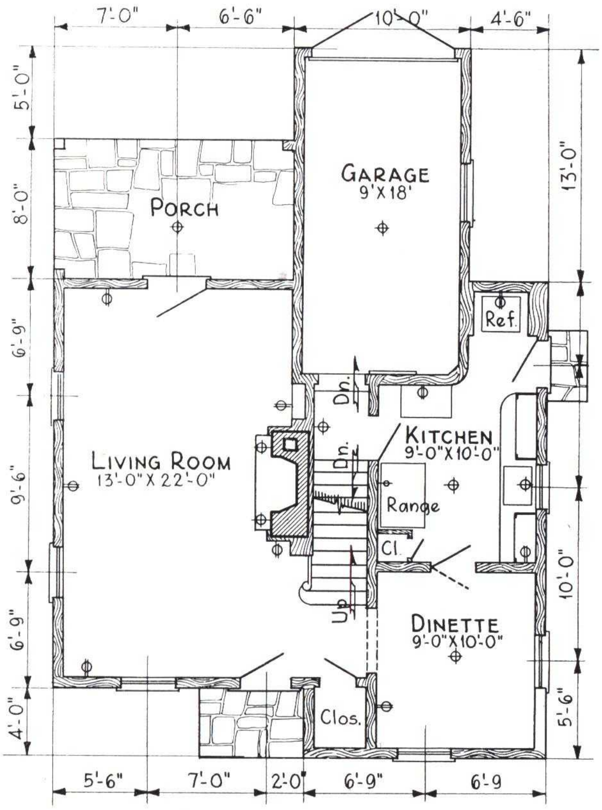
FRONT ELEVATION



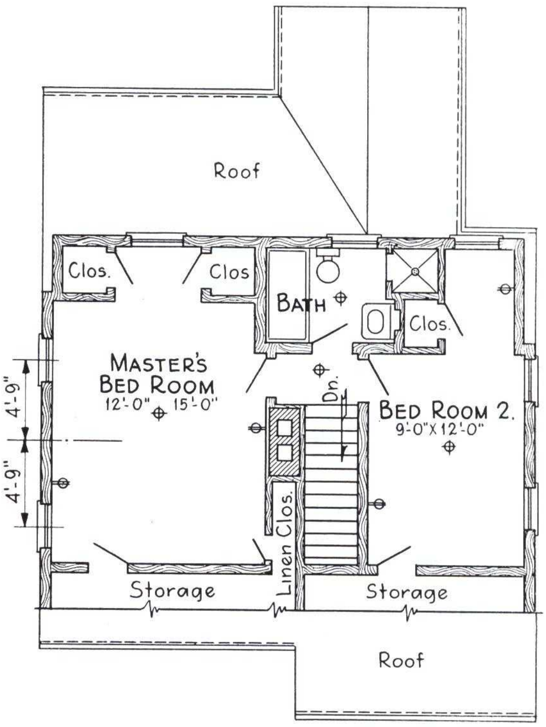
REAR ELEVATION



LEFT SIDE ELEVATION



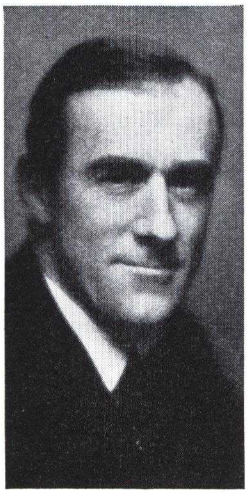
FIRST FLOOR PLAN



SECOND FLOOR PLAN

"Plymouth Haven"

Homeland Company Groups Well-Planned Small Homes About a Court, Featuring "Puritan" Setting, Historical Facts and Names



CHARLES C. MULLALY

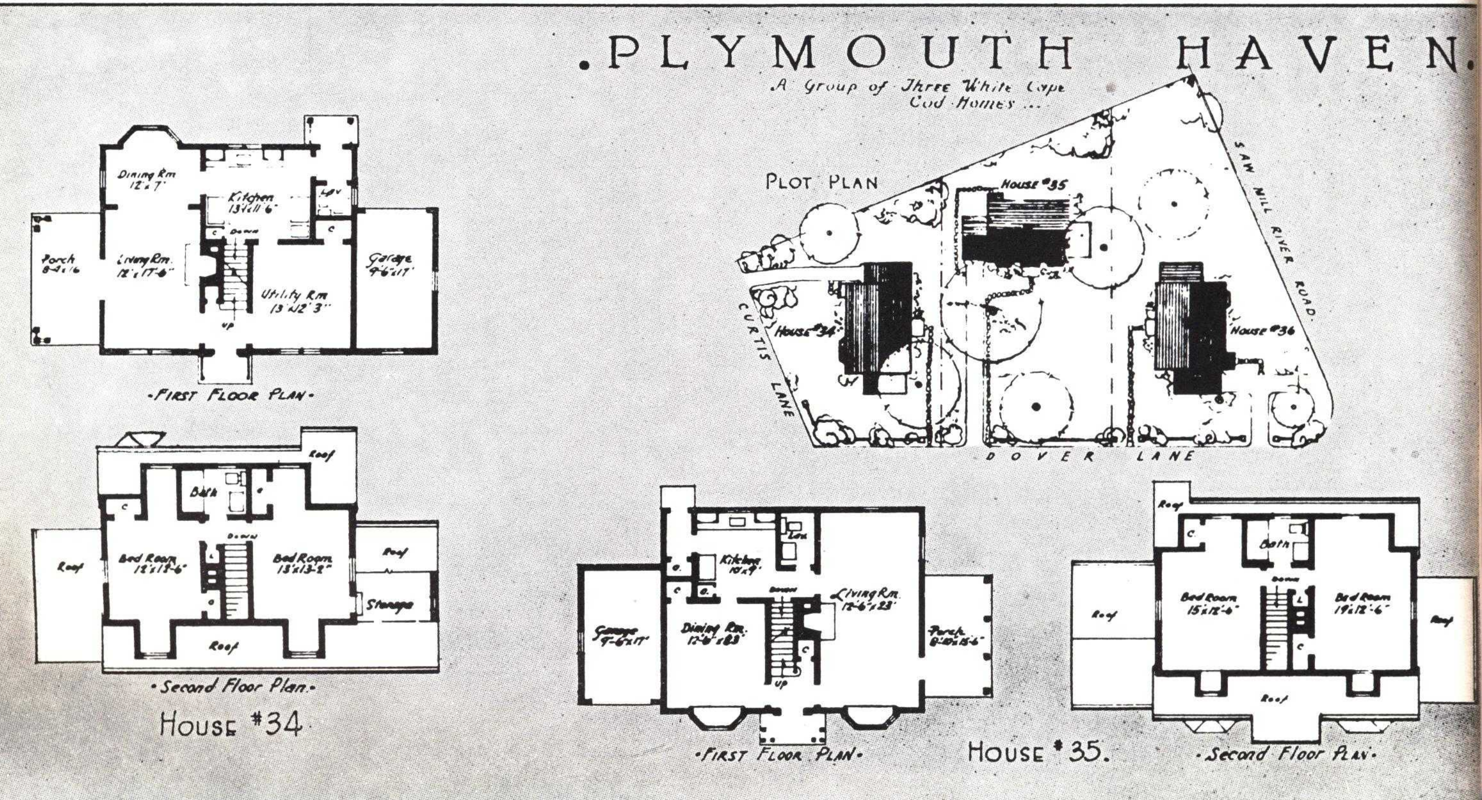
BY GROUPING a number of attractive, white Colonial houses about a court, The Homeland Company of Yonkers, N.Y., established a quaint Colonial atmosphere that has proved a great sales help.

Charles C. Mullaly, well-known real estate man and builder, has here produced a "Puritan-like" community that capitalizes on the historic background of his location. The interesting historic items concerning this area have been featured. Advertising is built around a quaint Puritan figure and the copy talks about Plymouth and Puritan times.

Plymouth Haven, the name given Homeland's new community, is also excellent, and the houses have individual Colonial names, such as "Faith Brewster," "Betty Alden," "Anne Winthrop." Architect William E. Cain, of 2801 Pond Place, the Bronx, N.Y., has carried out the Colonial character of the designs in a most effective fashion. In addition to the Colonial woodwork, hardware, shutters and other features, he designed rain barrels, a quaint stone well and a wide rail fence that also contribute to the setting.

Quality specifications have been established by Mullaly, featuring such products as American Radiator boilers; Quiet Heat oil burners; Standard plumbing fixtures; Anaconda copper flashing, leaders and gutters, brass pipe; Celotex insulation and plaster base; Armstrong linoleum; Thibaut wallpaper; Unique sash and window balances; Chase Brass Colonial lighting fixtures.

Trees on the site date back to Revolutionary days. One of the interesting promotional items arranged by Mullaly was a visit by neighboring school children to witness the tapping of the huge sugar maples. The



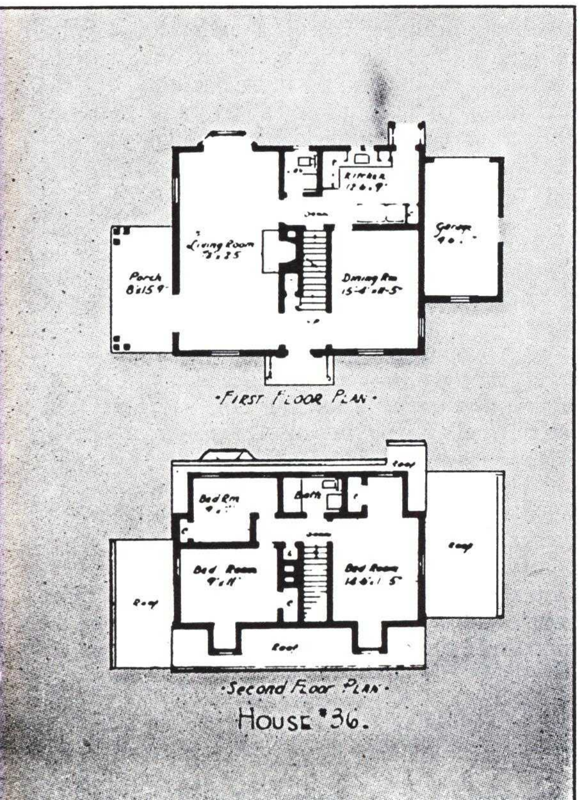
teachers made a "lesson" of it and took a quantity of the sap to be boiled down to syrup. One of the older classes made pancakes to use the syrup!

Charles Mullaly has conducted the affairs of The Homeland Company successfully through the boom days of the twenties and the lean days of the thirties and has, as a result, a sound knowledge tempered by experience. He disagrees with some of the current theories on low-cost housing. The Plymouth Haven homes cube from 16,000 to 19,000 feet, with prices ranging from $7,950 to $8,650—distinctly not "low-cost."

"Back in 1931 we had an interesting experience in 'low-cost' housing," Mullaly told *American Builder*. "That was before the nation became 'low-cost house conscious.' We were the first to try it in this locality. We built four and five-room houses to sell as low as $3,950. They ran from that to $5,500 and they were fine little houses. We learned something from that experience. We had six thousand people through No. 1 house priced at $3,950, before we sold it. It was a better-by-far house than many offer today at $5,000, but we learned that even people who could not afford **that** turned up their noses at it.

"So after watching carefully over the past few years

ABOVE: 3 white Colonials in a Puritan setting. RIGHT: 4 typical examples of small advertisements used by Homeland Company in connection with their Plymouth Haven homes. BELOW: Plot plan and individual floor plans of Plymouth Haven, showing how cleverly houses are fitted to site, each having convenient driveway and sidewalk.



ONE OF THE PLYMOUTH HAVEN homes; 6 rooms, 2 baths, attached garage; Floor Plans and Elevation, shown on page opposite. Each house in the group is named after a Colonial character, such as shown in the entrance detail below, named for Faith Brewster.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 173

the attempts of others to meet the market, we decided to construct houses to appeal to families who desired housing that would stand up over the period of the mortgage and include the essentials for comfortable and modern living and not be just another group that in a few years we will point to as 'depression houses.'

"To do so we could not hope to meet a price of $5,000 and we knew it. Further than that, we believed and we are still convinced that the average purchaser in this locality has the intelligence to realize that there are one hundred cents in a dollar and no more and that he cannot hope to obtain, under average material and labor costs, individual housing that will be lastingly satisfactory at any such figure.

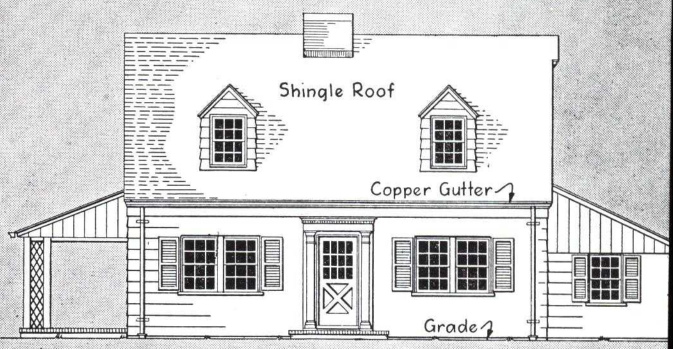
"Some will accept as a makeshift what can be produced for $5,000 but I fear they will abandon these houses after a period, charging off their 10 percent down payment as additional rent. The first-mentioned group is not interested in having a home that hasn't insulation, a fireplace, a good lath and plaster job—even though it does bring several tons of water and sand into the house—at least a partial cellar, tile in the bathroom, a porch, a garage, and a rigid type of roofing.

"Those who can afford a home at all seem more willing to have this type of house, pay a little more for it, and have a larger equity in it, with a definite feeling of ownership rather than accept one more gift from or create one more obligation to Uncle Sam. I might add that these houses are selling readily."

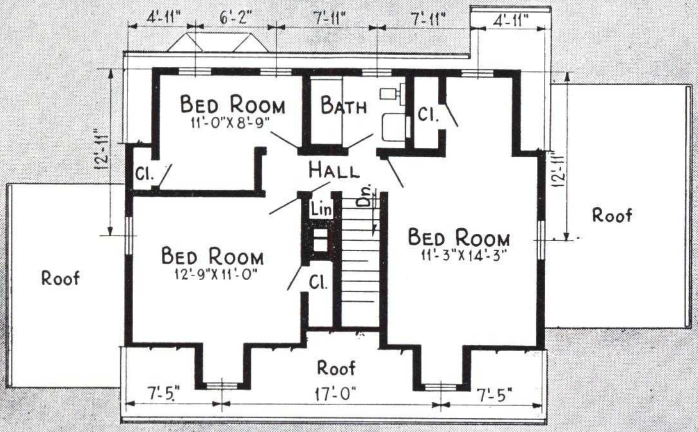
COLONIAL DETAILS

The Charm and Appeal of the Plymouth Haven Homes Are Due to Careful Detailing of Plans by Architect William Cain. Complete Details Shown Below Are Recommended for Careful Study

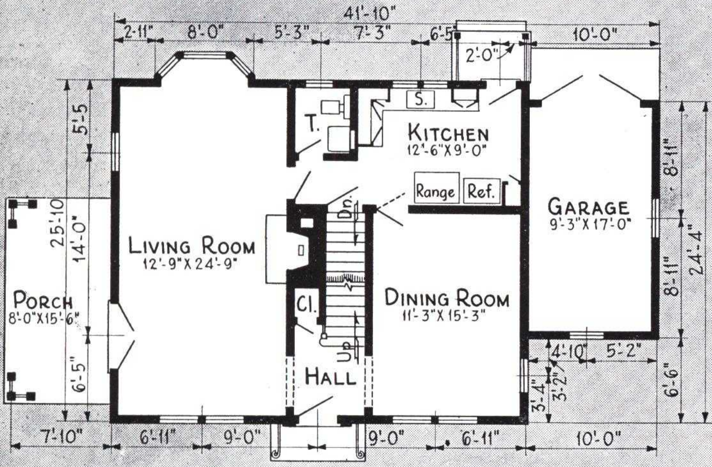
PHOTO OPPOSITE



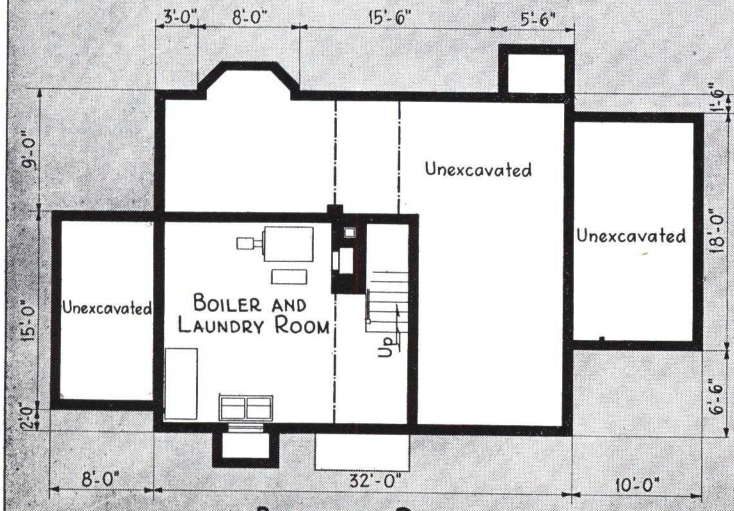
FRONT ELEVATION



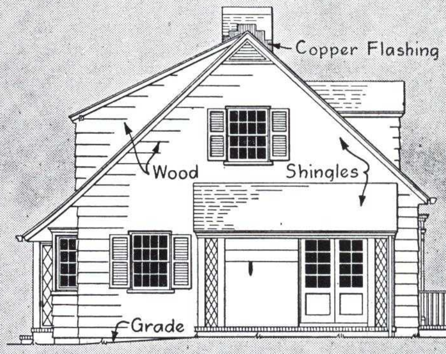
SECOND FLOOR PLAN



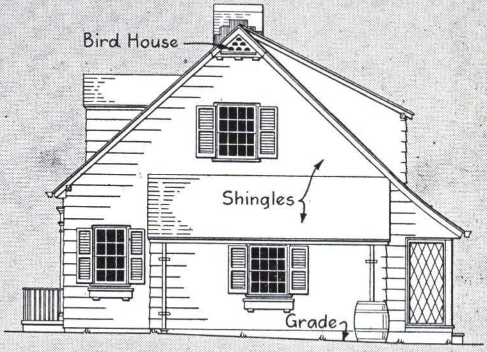
FIRST FLOOR PLAN



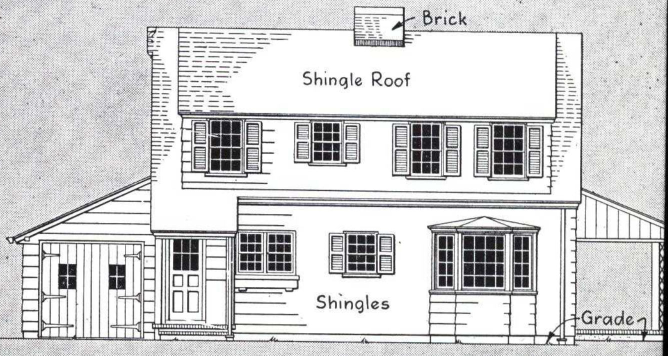
BASEMENT PLAN



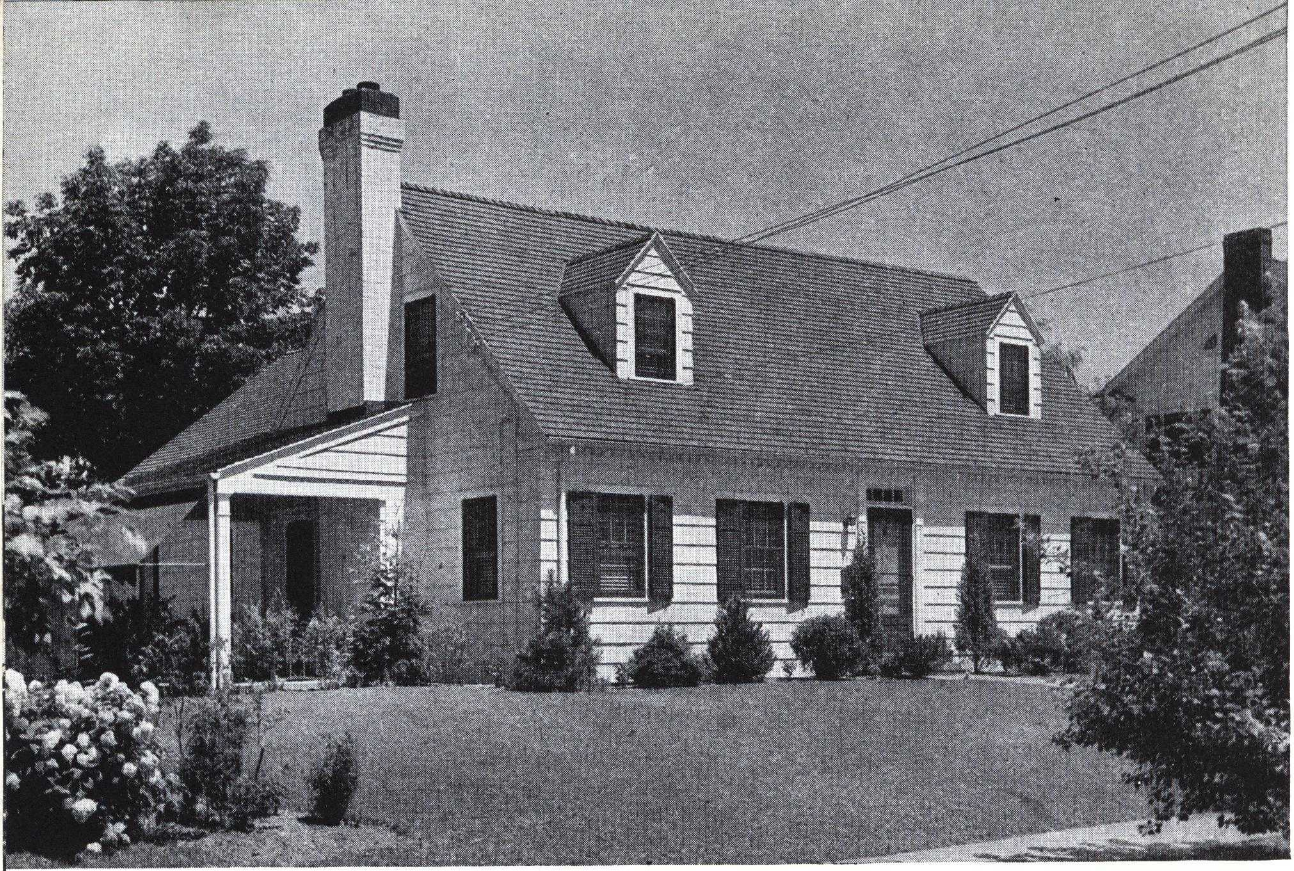
SOUTH ELEVATION



NORTH ELEVATION



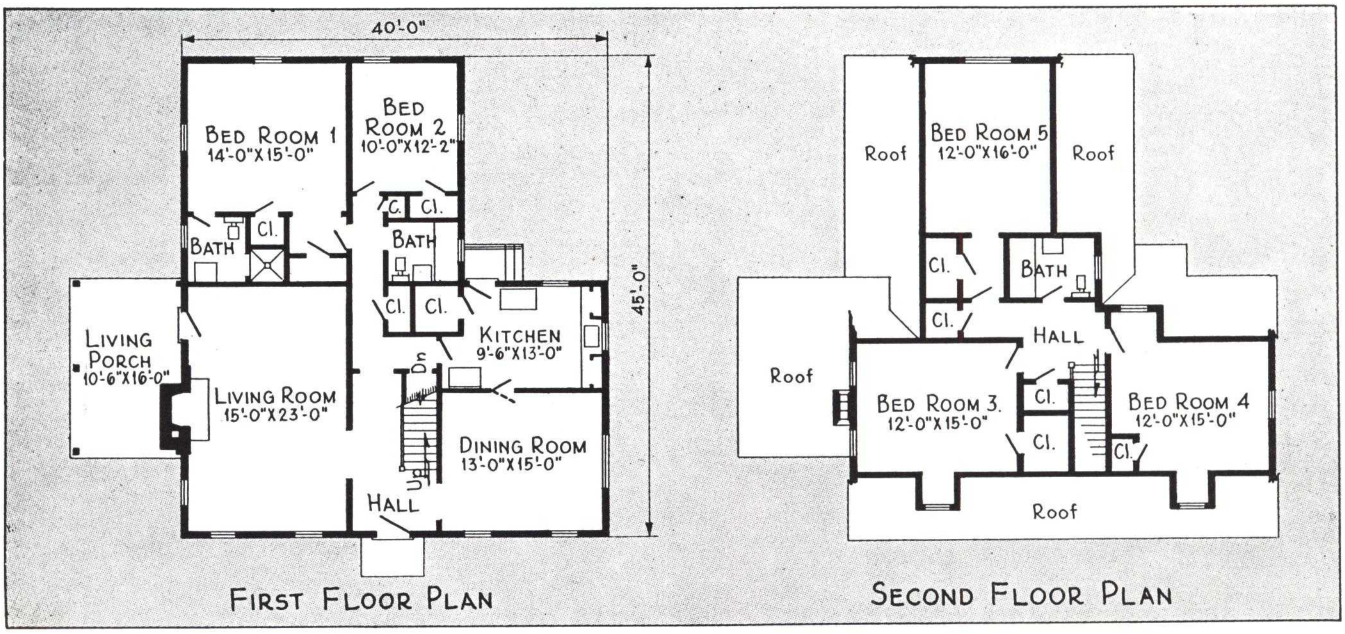
WEST ELEVATION



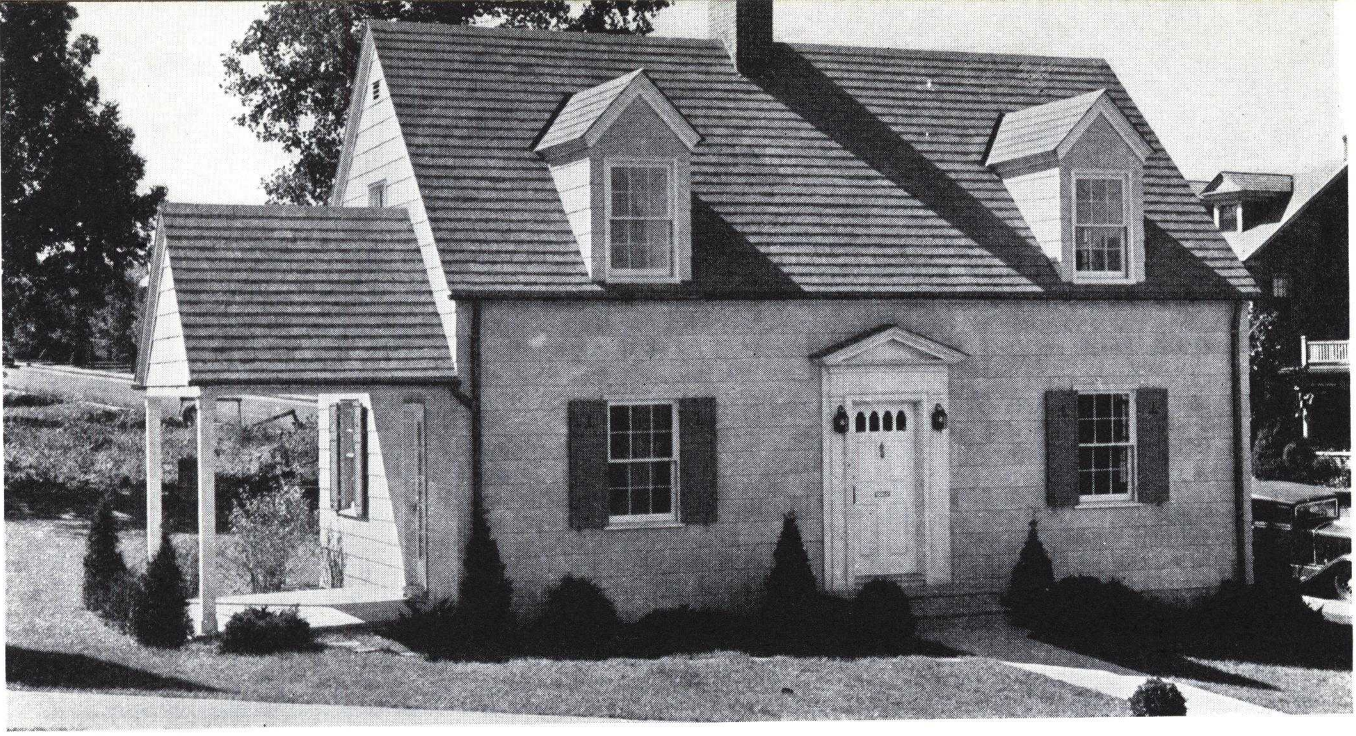
5 BEDROOMS—3 BATHS—CUBAGE 35,000

THE OWNER wanted a small-looking house from the street, yet with ample room inside. The result, pictured above, is a modest-looking home which has, however, 5 good bedrooms and 3 baths, as well as large living and dining rooms and ample closets. The house was designed by Architect Henry W. Johanson, and built by Contractor O. C. Olsen in Manhasset, L. I. Specifications include Armstrong kitchen floors, Sargent hardware, Arrow-Hart & Hegeman wiring devices, International Nickel sink, Libbey-Owens glass, U. S. Gypsum rockwool bat insulation, detached garage with Roway overhead doors, American Radiator heating system. The plans below show the compact 8-room arrangement.

American Builder Tru-Cost Figures for these houses on page 173



First Floor Plan — Second Floor Plan



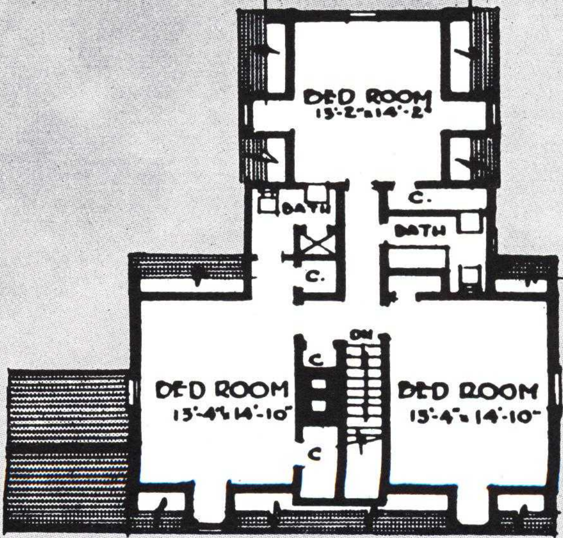
GARAGE, EXTRA BEDROOM AND BATH IN ELL

BY PLACING a two-car garage at the rear of this Colonial design, the architect made space for an extra bedroom and bath upstairs and a lavatory downstairs that add a great deal to its value. The house was built in Reading, Pa., last year by builder Fred P. Behm. The architects were Ritcher & Eiler, also of Reading. The house was opened to the public as a Johns-Manville Triple Insulated Home and attracted wide attention. Exterior is of cedar-grain cement asbestos shingles.

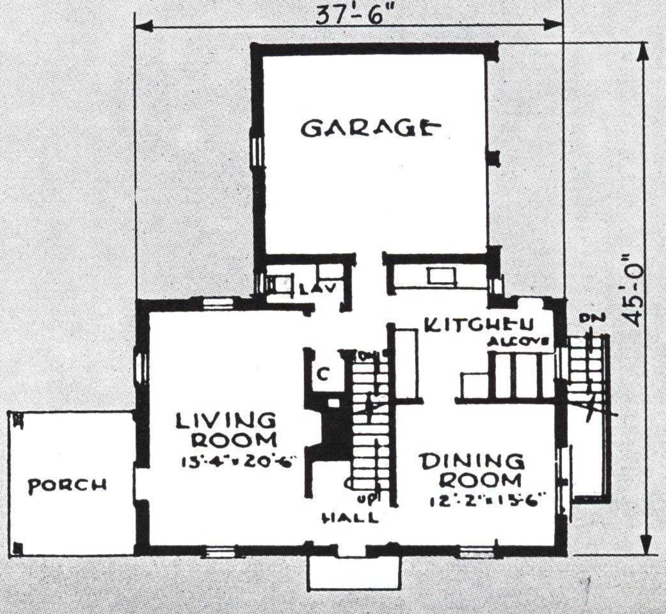
THE PLANS are compact and provide a large amount of usable living quarters in a small cubage. The trend towards smaller houses but increased bathroom facilities is well illustrated. There is a lavatory on the first floor which is accessible from both living room and kitchen. One of the upstairs bathrooms is connected with the master bedroom, and the other is easily accessible from the other two bedrooms. The house is "built to last" using firesafe materials, is heavily insulated and well constructed.

BASEMENT has an outside as well as an inside entrance. The large storeroom is suitable for a recreation room. The area under the garage is unexcavated.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 173



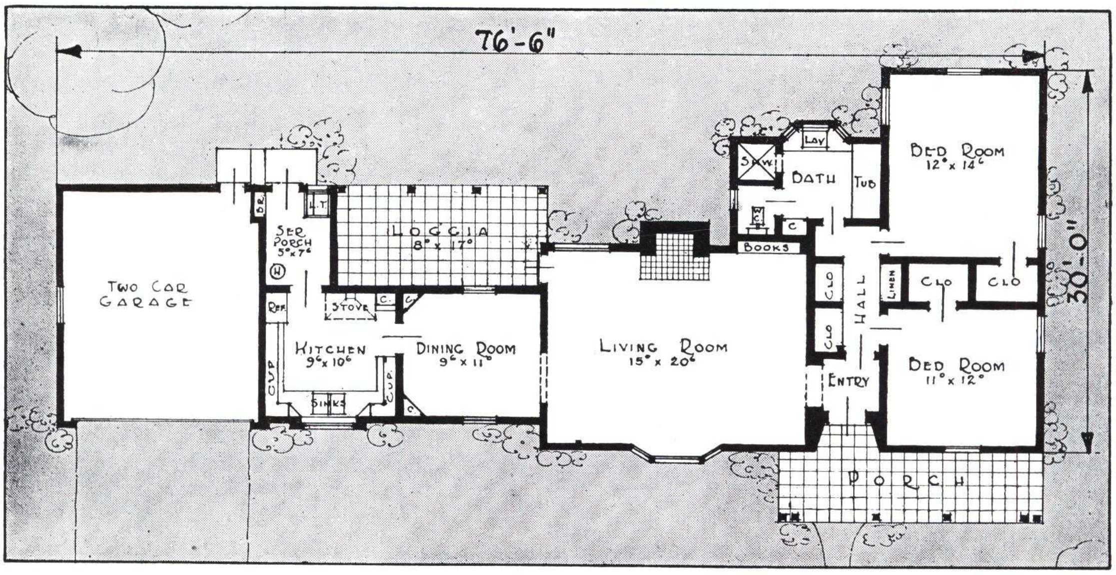
SECOND FLOOR PLAN



FIRST FLOOR PLAN

5-ROOM CALIFORNIA HOME ON HILLSIDE

A FEATURE of this house is that it is arranged to occupy a long, shallow lot without sacrificing convenience and sets against a hill slope. The garage is attractively designed as part of the house. Wm. Mellenthin, North Hollywood, was the builder; Leo F. Bachman, A.I.A., Los Angeles, the architect. Exterior walls are of stucco and Ponderosa pine finished with three coats of white lead and oil. A decorative wooden frieze, consisting of 1 x 12 pine boards V-grooved and painted golden yellow, is placed under the eaves. Window shutters are of Oregon pine and roof is redwood shingles. Cupola gives circulation inside.



AMERICAN BUILDER TruCost FIGURES FOR THESE HOUSES ON PAGE 173

THE dining room above has wainscoting and attractive corner cupboards in natural finish pine. Standard plumbing fixtures in the tiled bathroom include a vanity lavatory recessed for direct lighting and a toilet in a separate stall. Heating is from a Monarch manual control floor furnace.

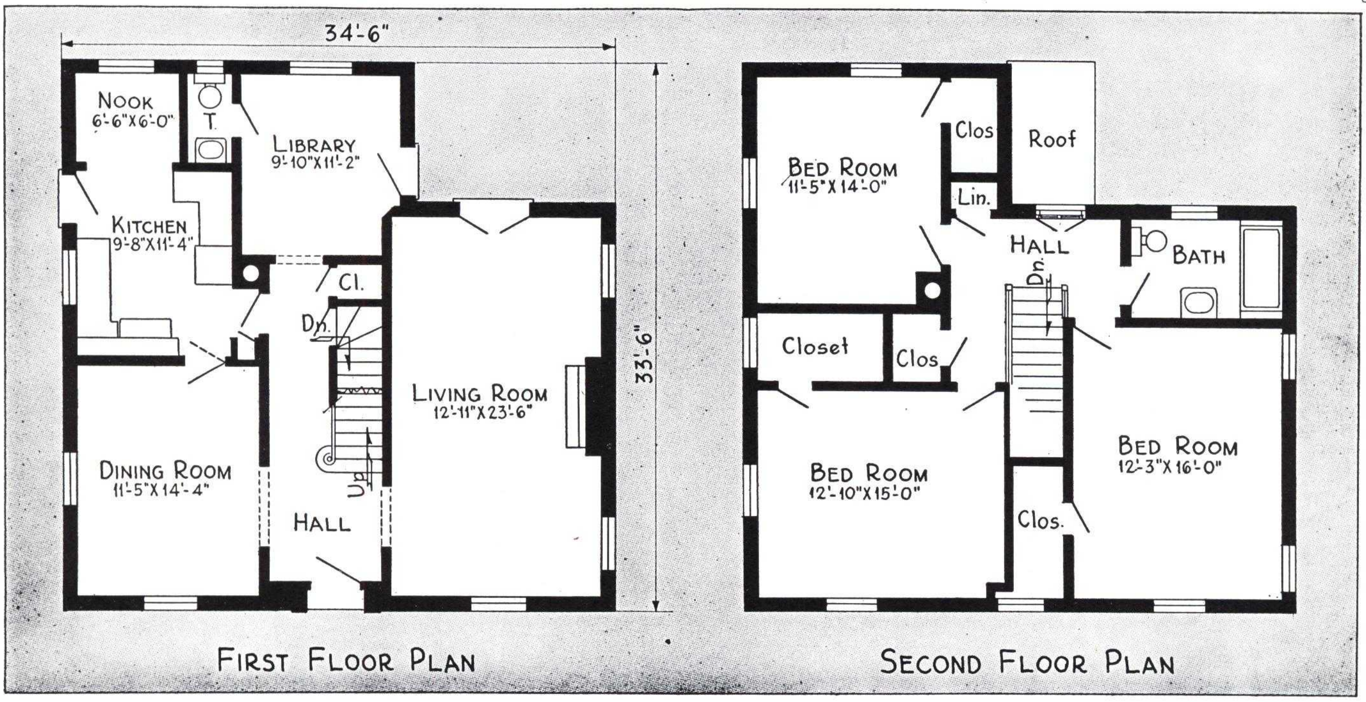
UNLIKE the proverbial shoemaker who did not take care of his own family's shoe needs, builders do take time out to erect their own homes. The one pictured at the right was built by W. E. Ramskill, construction superintendent for the firm of Wm. Rix & Co., designers and builders, Chicago. In plan the house is efficient with the seven rooms grouped for good access. Features are well lighted breakfast nook, secluded library with lavatory, doors leading from two rooms to rear terrace and center hall circulation. On the second floor there are three well planned bedrooms and five generous closets, one of these being cedar lined.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 173

A BUILDER'S OWN HOME

Designed and Built by Wm. Rix & Co.

THE MODIFIED French Norman styling of this house is carried out in unpainted "Autumntint" common brick veneer with Flintkote asphalt blue-black shingles laid over 30 lb. tarred felt. Foundation walls are 13″ poured concrete on footings 24″ x 10″; exposed concrete work given one good brush coat of white waterproof cement and outside foundation walls dampproofed with heavy coat of tar mopped on hot. Other construction items include: sills, studs, posts, joists, and rafters all No. 1 fir, or No. 1 long leaf yellow pine; outside woodwork of clear, well seasoned redwood; sheet metal, No. 26 gauge Toncan rust-resisting galvanized iron. Finished floors, except Armstrong linoleum in kitchen and toilet room, are 13/16″ x 2 1/4″ clear red oak; interior trim is specially designed and mitred trim of birch assembled at mill; 1 3/4″ doors. T & G knotty pine walls in den; in other rooms, U. S. Gypsum Rocklath with 3-coat plaster work; suspended clips in living room ceiling; tile floor and wainscot 4′ high in bath. Ceiling area of second floor and all outside walls covered with four inches of U. S. Gypsum "Red Top" mineral wool; Bryant gas-fired warm air "winter air conditioning" heating.



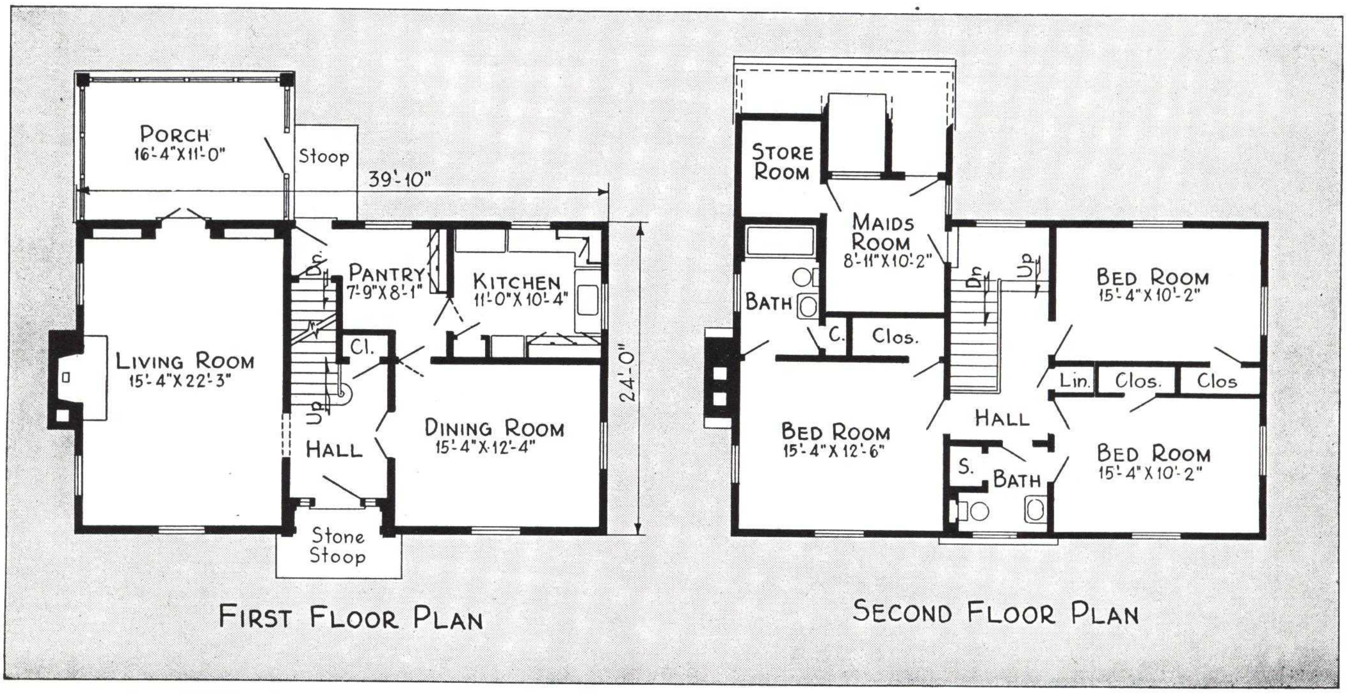
THE McKAY house at the left has all four bedrooms and two baths on the second floor as shown in plan below. The first floor contains living room, dining room, kitchen and pantry; a screened-in porch opens off the rear of the living room. The kitchen is planned so that there is no through traffic and arranged for line efficiency. Easy stairs lead up to a landing off which the maid's room is placed. All main rooms have cross ventilation.

MIDWESTERN BUILDER FEATURES HOMES WITH SPACIOUS

Designed and Built by McKay Construction Company, Cedar Rapids, Iowa

THE EXAMPLES of McKay's current planning and construction shown on these two pages indicate that in the "wide open spaces" homes are not cut down to squeeze out every possible bit of livable cubage. The seven-room designs above which are typical of this well known concern have the space necessary for gracious family life. Entrance halls are large enough to lend a welcome atmosphere; terraces and porches are provided for outdoor living. Fireplaces of good size and built-in bookcases bring to mind quiet winter evenings at home. Pantries, cupboards, closets and other areas assure sufficient storage space. Like the efficiently planned U-shaped kitchens, the houses throughout are carefully laid out for maximum livability.

Exterior design is clean cut and well handled according to type. One is of the more formal Colonial style with recessed entrance in a balanced elevation. The plainness of white clapboard and wood shingles is offset by shuttered windows and decorative cornice. The other house presents an interesting contrast with rough laid brick chimney, trowel marked stucco, shingles laid with irregular butt line and steel casement sash.

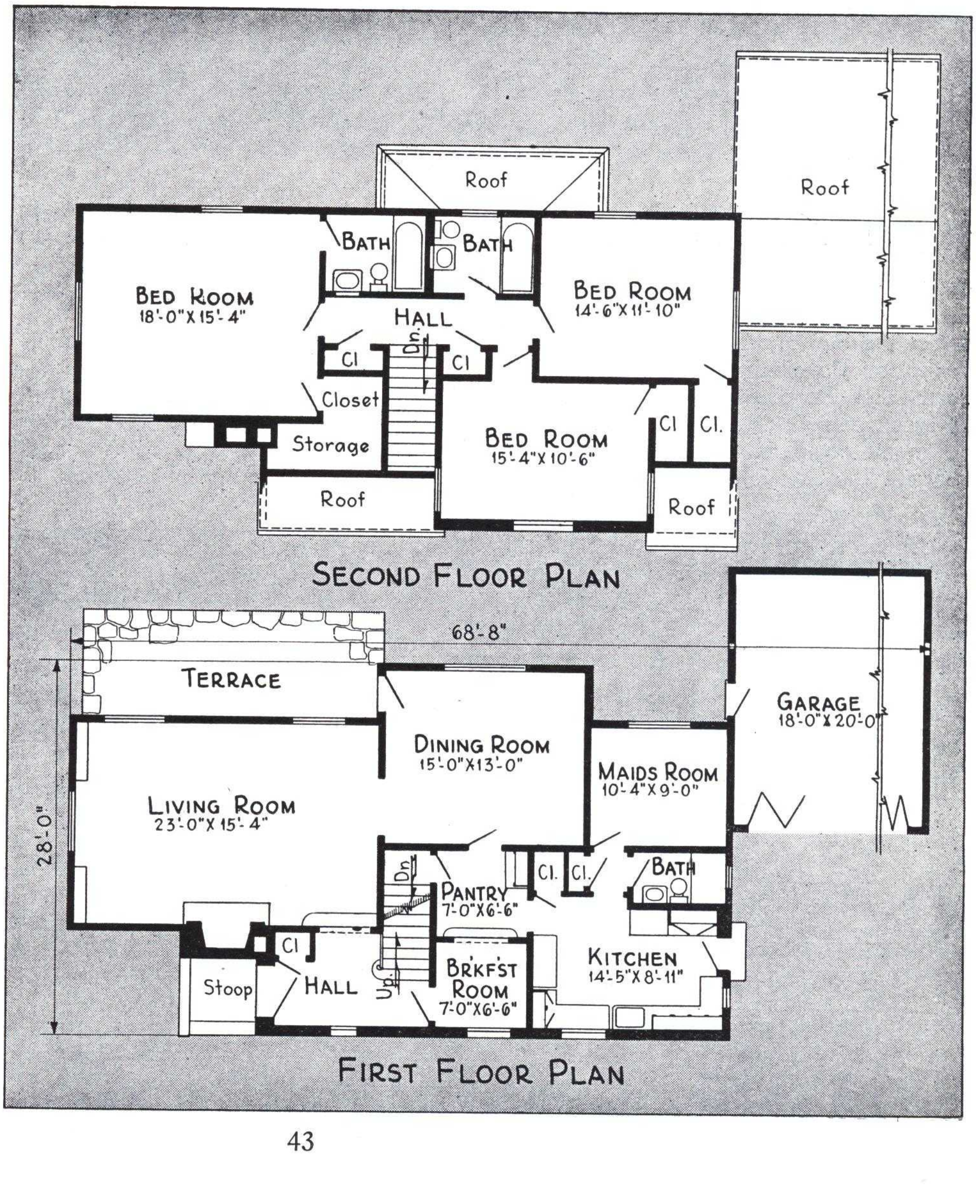


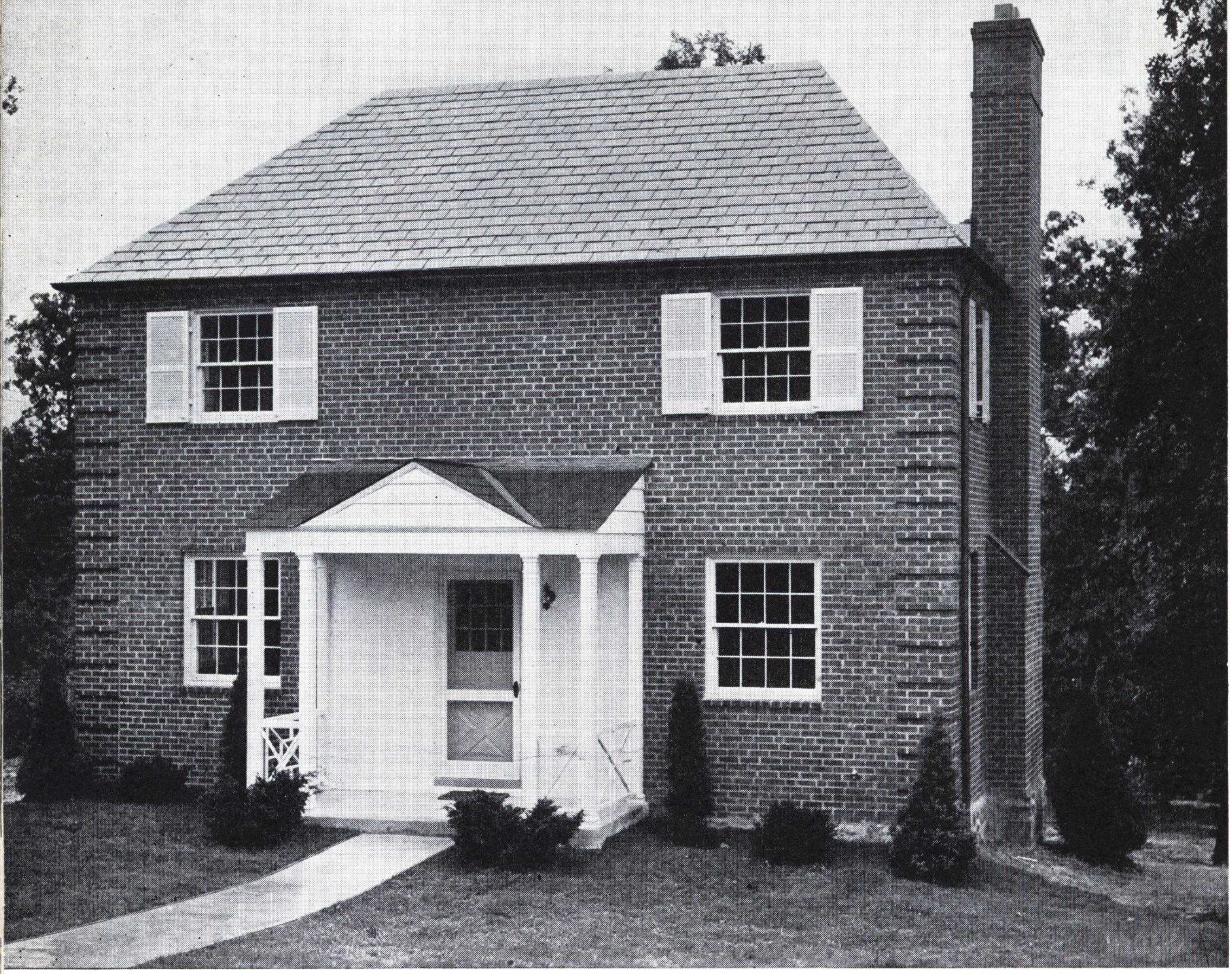
INTERIORS, EFFICIENT KITCHENS AND GOOD STYLING

AMERICAN BUILDER TruCost FIGURES FOR THESE HOUSES ON PAGE 173

ENTRANCE hall and breakfast room in this house are two steps up from the main portion which consists of large living room, dining room, maid's room and bath, kitchen, pantry and attached garage. Upstairs there are three bedrooms with good window placement and two baths, one off the master bedroom. Principal rooms overlook the broad expanse of yard to the rear; a door from the dining room opens onto a flagstone terrace. The large living room fireplace has a Bedford stone face and tile hearth; built-in book shelves flank the end window of this room.

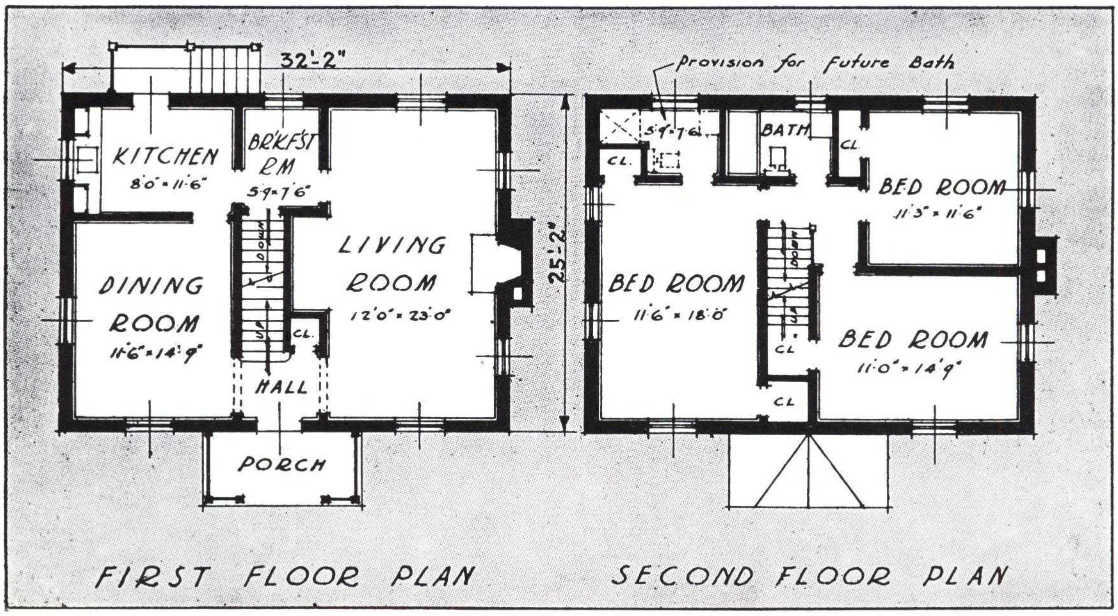
Designed and Built by McKay Construction Company, Cedar Rapids, Iowa



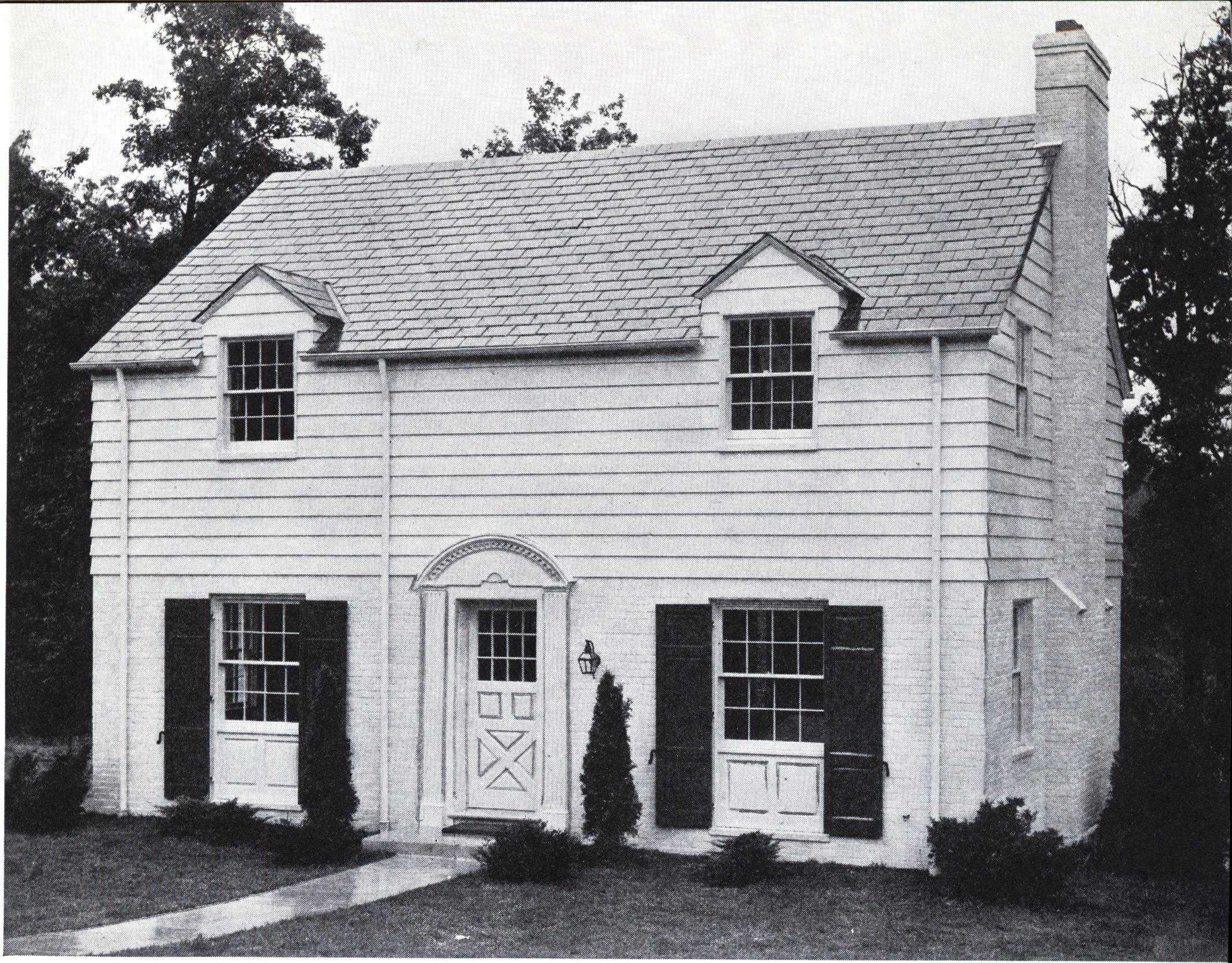


NORTHWOOD HOMES—3 EXTERIORS FOR ONE PLAN

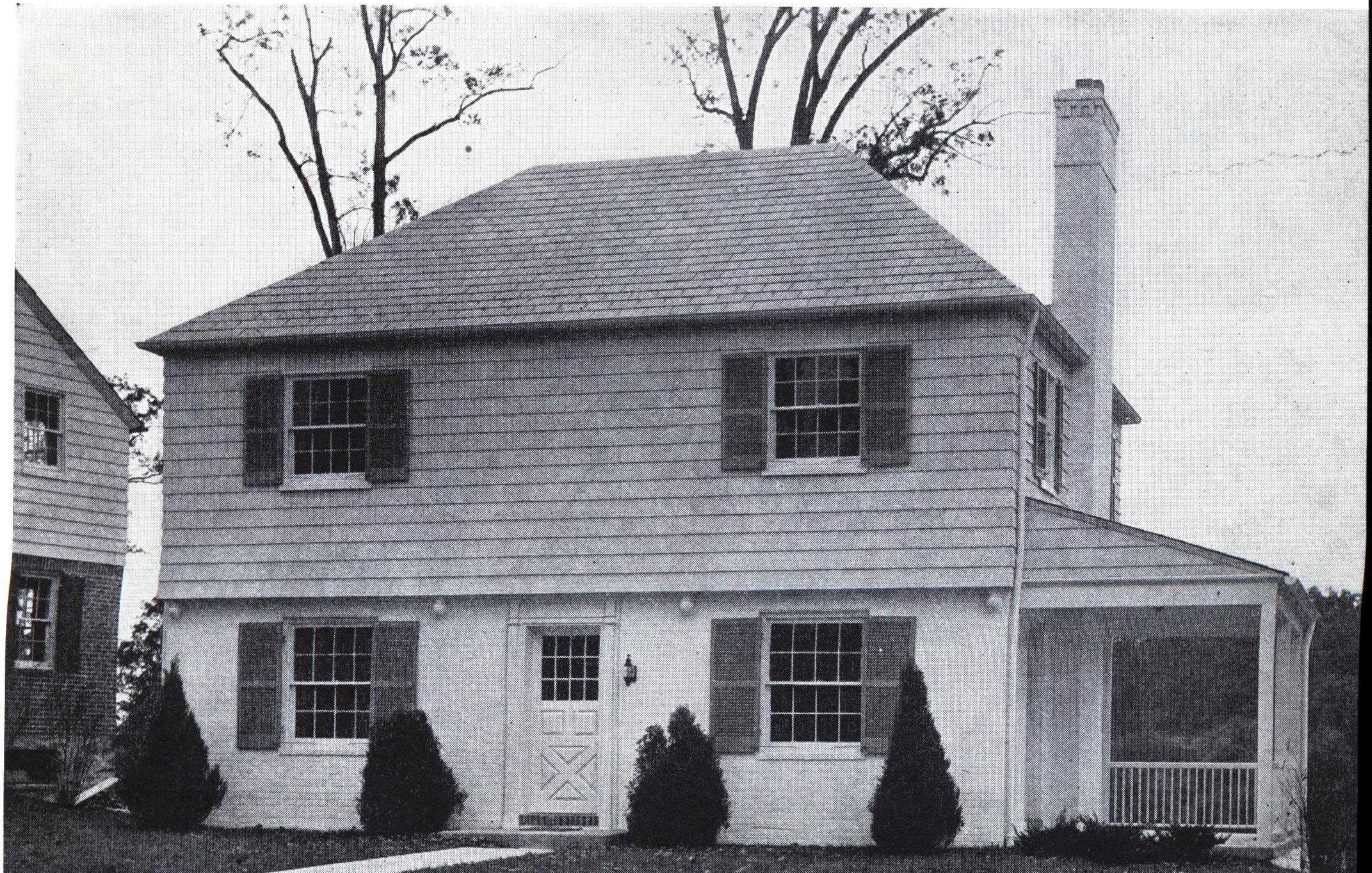
JOHN A. AHLERS, architect for The Roland Park Company of Baltimore, planned the accompanying houses as part of a group of 10 medium-priced homes for the firm's Northwood Development. They were built by The F. E. Wurzbacher Corporation. The basic plan, shown below, provides spacious, well ventilated rooms, ample closets and many comforts for houses enclosing a fairly small cubage. The exteriors have been varied in an interesting fashion so that the average person would not know the floor plans are identical. Houses are equipped with winter air-conditioning system. An interesting feature of the plan is the space provided on the second floor for an additional bathroom. Rough piping has been installed so that the additional fixtures can be added at any time at low cost. Another good feature is the attic stair leading from one of bedroom closets, providing permanent access.



AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 173

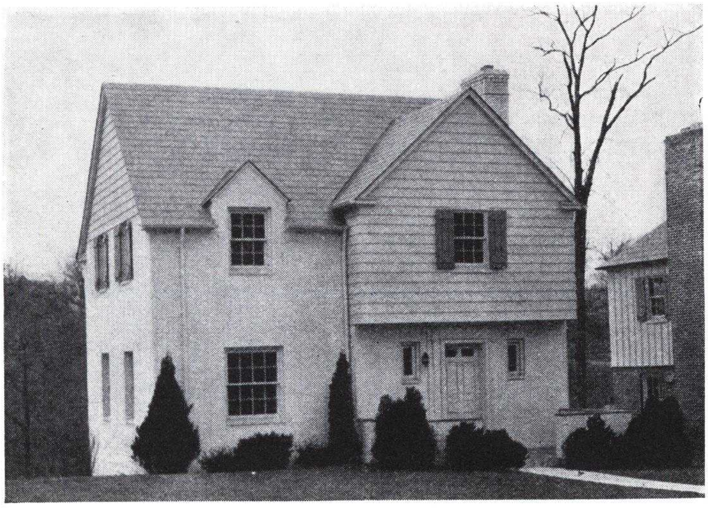


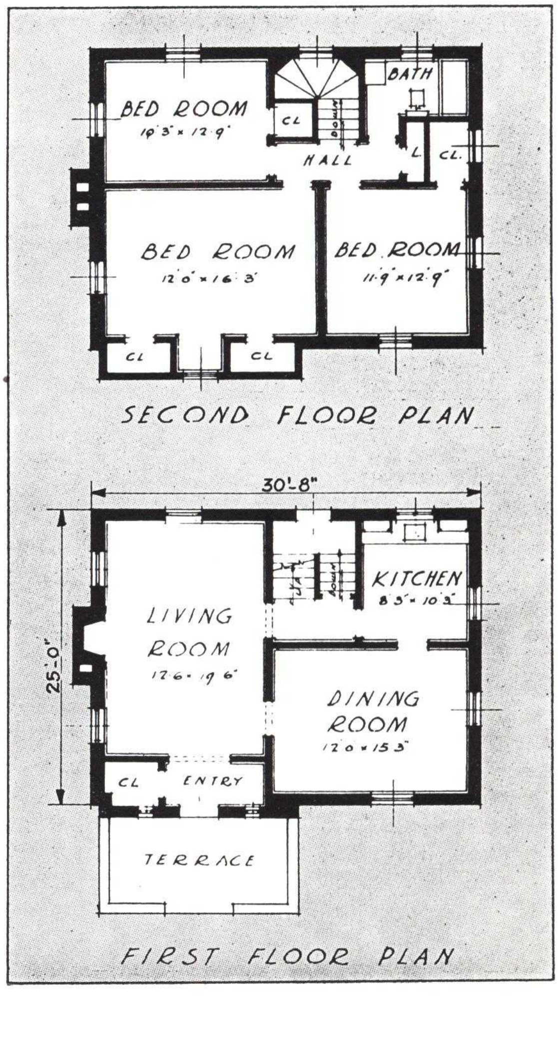
TWO ADDITIONAL DESIGNS for the Baltimore floor plan illustrated on opposite page. The houses have slate roofs; full basements, with maid's toilet; copper screens; woodburning fireplaces. The living rooms are large and well proportioned.



AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 173

COMPACT brick home in Northwood development of Roland Park Company, Baltimore, designed by John A. Ahlers, architect; built by F. B. Wurzbacher Corporation.



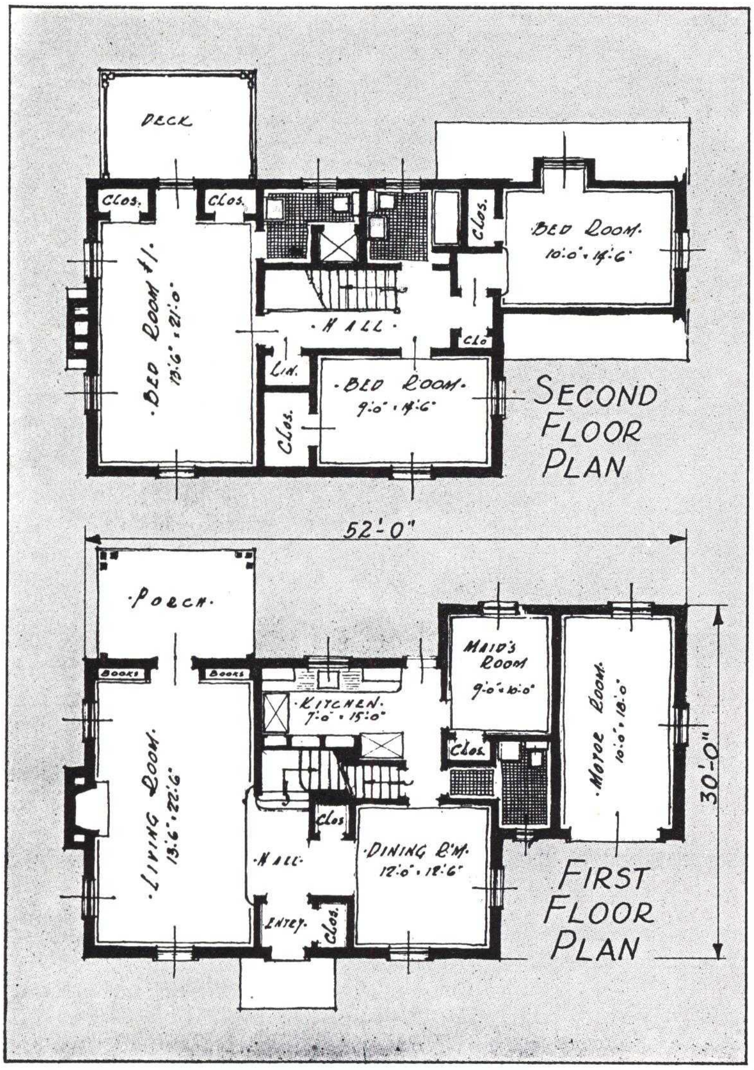


SIDE ENTRY—NORTHWOOD

AS A VARIATION in the plan of a group of 10 houses in Northwood, a development of The Roland Park Company in Baltimore, Md., Architect John A. Ahlers designed this side-entrance Colonial. The basic foundation size is almost exactly the same as other houses in the group, but a variation in exterior appearance is made by moving the entrance to one side and placing the stairs at the rear between living room and kitchen. All of the rooms in this house have excellent light and cross ventilation. There are ample closets, and the arrangement is efficient and practical. Equipment features winter air-conditioning, with oil burner; slate roof; full basement; attractive stone terraces; modern kitchen.

7-ROOM HOME WITH 2½ BATHS ARRANGED IN A 4-LEVEL PLAN

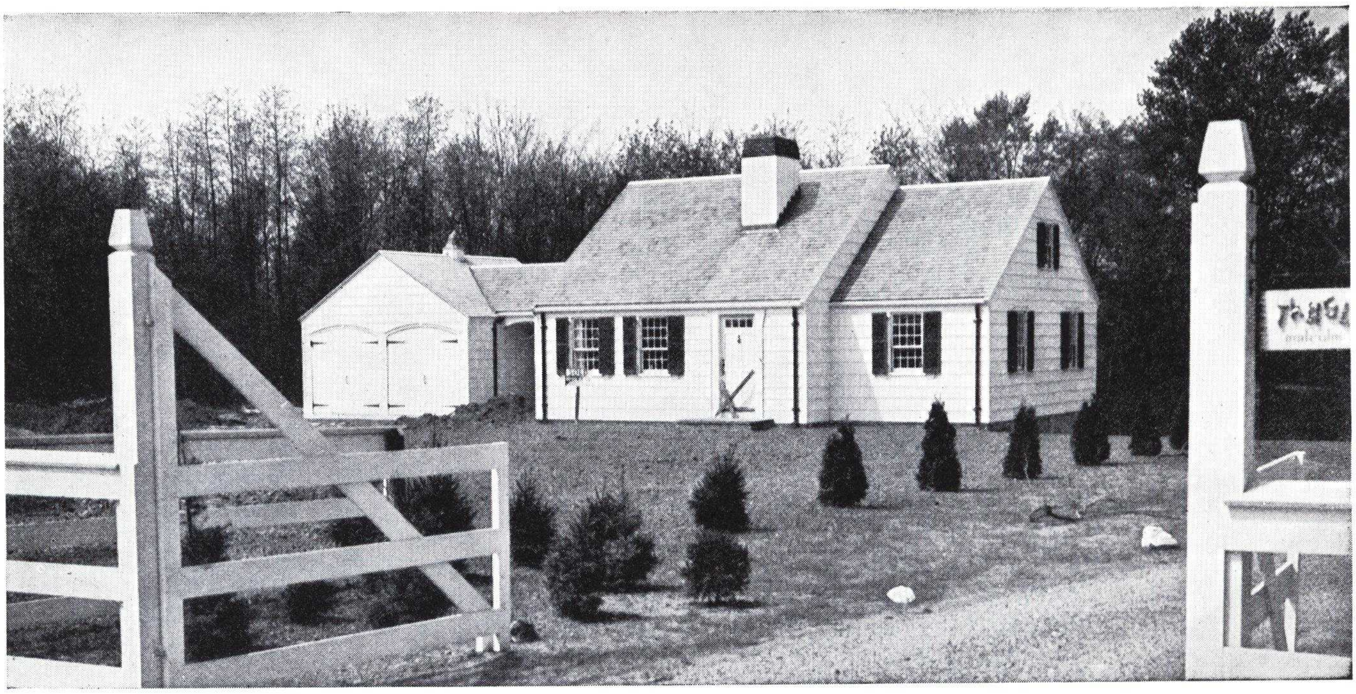
Built in Riverside, Ill., by Home Builders Co. of Chicago



FROM the exterior view below, the true size and arrangement of this house are not evident. The plan indicates the way in which rooms are arranged on four levels with the living room down one step from the hall for greater ceiling height and one bedroom a step down over the attached garage. A maid's room is placed directly off the kitchen, near both rear entrance and first floor lavatory. On the second floor baths are economically grouped over the kitchen.

COLONIAL detailing is handled in a pleasing manner. The exterior is painted common brick below and clapboard above. Roof is of unstained cedar shingles. Fenestra steel casements are used in all window openings; the garage door is equipped with Barber-Coleman hardware. Linoleum is used on floors and walls of the baths and the kitchen. Heating is with a gas-fired Niagara forced air system.

AMERICAN BUILDER Tru-Cost FIGURES FOR THIS HOUSE ON PAGE 173



A NEW high in country home charm is reached by this gemlike New England Colonial shown above which is set back 100 feet from the road behind a trim fence.

Fine Small Homes in

Semi-suburban, Rural and Country Homes Such as These

THE photographs and plans above are dramatic evidence of the progress at least one builder has made in building and selling homes in the country. The builder is Wallace B. Goodwin of Elmwood, Conn., a suburb of Hartford, and these houses which he calls "small country estates" are located in his latest development, Woodridge. They are designed by Architect Norris F. Prentice.

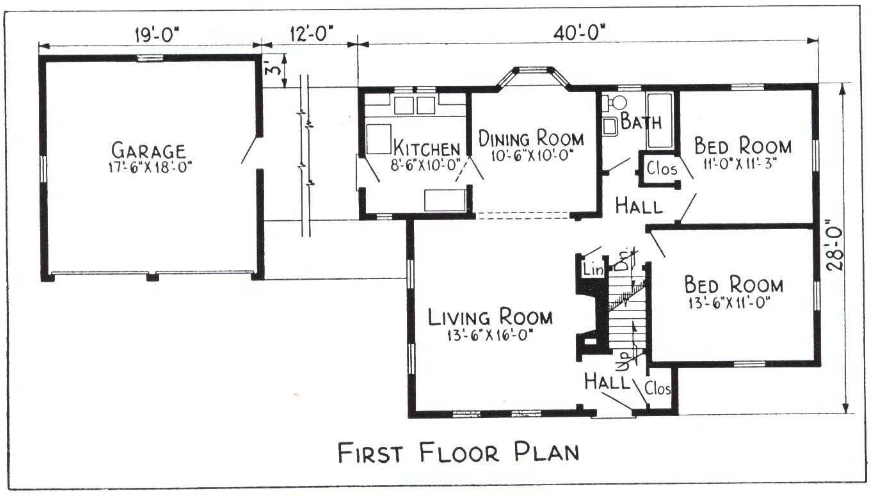
Goodwin is a pioneer in New England in the country-estate idea. He has fought to get financing on equal terms for country houses with those built in the cities. Passage of the new 1938 FHA amendments should prove a victory for him, as the new Act specifically includes financing of homes in semisuburban, rural and country areas.

"Invariably, when a man of means and individuality builds a home, he goes out into the country, buys a good-sized piece of land and puts up a fine home costing from $25,000 up," declares Goodwin.

"I believe that outlying land, with the natural beauty of rolling fields, woods, a small lake or a brook, can be developed into small country estates with houses in the $10,000 to $12,000 class.

"Such houses must be carefully designed and built to fit the rural countryside and they must be thoroughly modern and fully equipped for former city-apartment dwellers."

Goodwin has amply proved his theory, and this is his third project in the last three years. A 125-foot deep Artesian well with 1500-gallon pressure tank and automatic electric pump supplies water for the six small estates in Woodridge. Houses are set 100 feet back on large plots of ground, screened from the road by a Colonial rail fence and attractive trees and shrubbery.



ARCHITECT NORRIS F. PRENTICE, co-operating closely with Developer Goodwin, gives his country homes a Colonial charm that is very popular. Floor plan at left shows a compact arrangement in a small house whose size is increased by the garage with covered areaway. There is a bunk-room on second floor and attractive recreation room in basement.

FLOOR PLAN of salt-box Colonial, at right, features attractive entrance stairs with open landing off the large bedroom. Wood shed and garage are attached. A fine recreation room opening on terrace is provided.

the Country

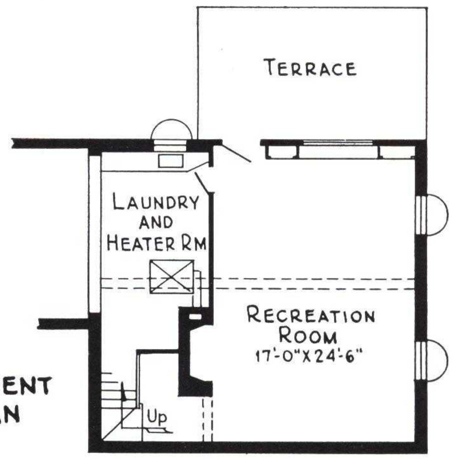
Can Now be Financed under FHA

AMERICAN BUILDER TruCost FIGURES FOR THESE HOUSES ON PAGE 174

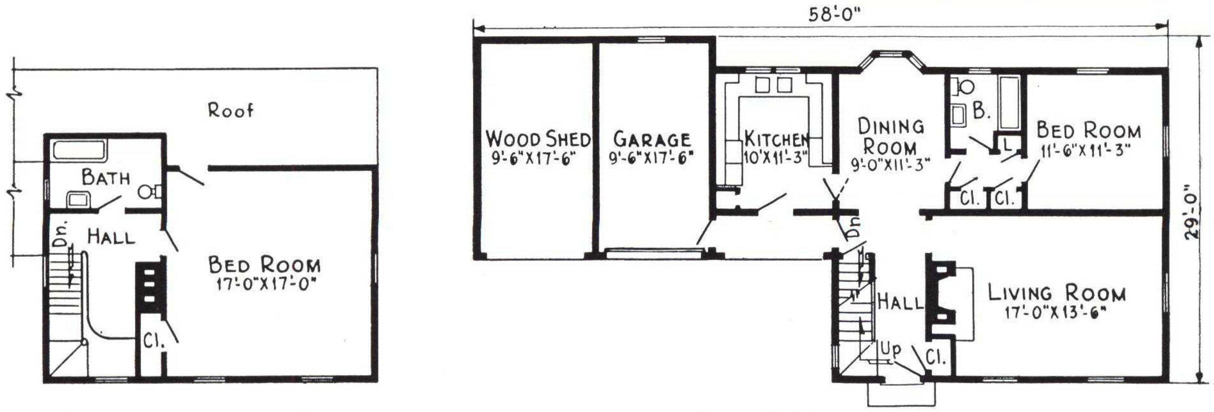
PAINTED a deep red, and screened from the street by a white rail fence, this New England, salt-box type, country home has all modern conveniences but retains all the old-time charm of Colonial days.

The houses themselves are designed by Architect Prentice with great appreciation for the historical New England architecture. Yet they are fully modern in their equipment, with every possible comfort provided. To make sure the character of the development is protected, Goodwin insists on selling the properties complete with the house fully decorated and ready to move into. He sells no vacant land.

Included in the equipment of the Woodridge homes are Lennox air conditioning; Balsam-Wool blanket insulation; Bruce random-width oak flooring, pegged and stained; Morgan mitered trim; brass piping; Standard plumbing fixtures; General Electric refrigerator and range; Armstrong yellow linoleum kitchen floors with insert; pecky-cypress recreation room walls; Colonial fireplaces with mantels and wood cupboards, and pine-paneled living rooms in Colonial style.

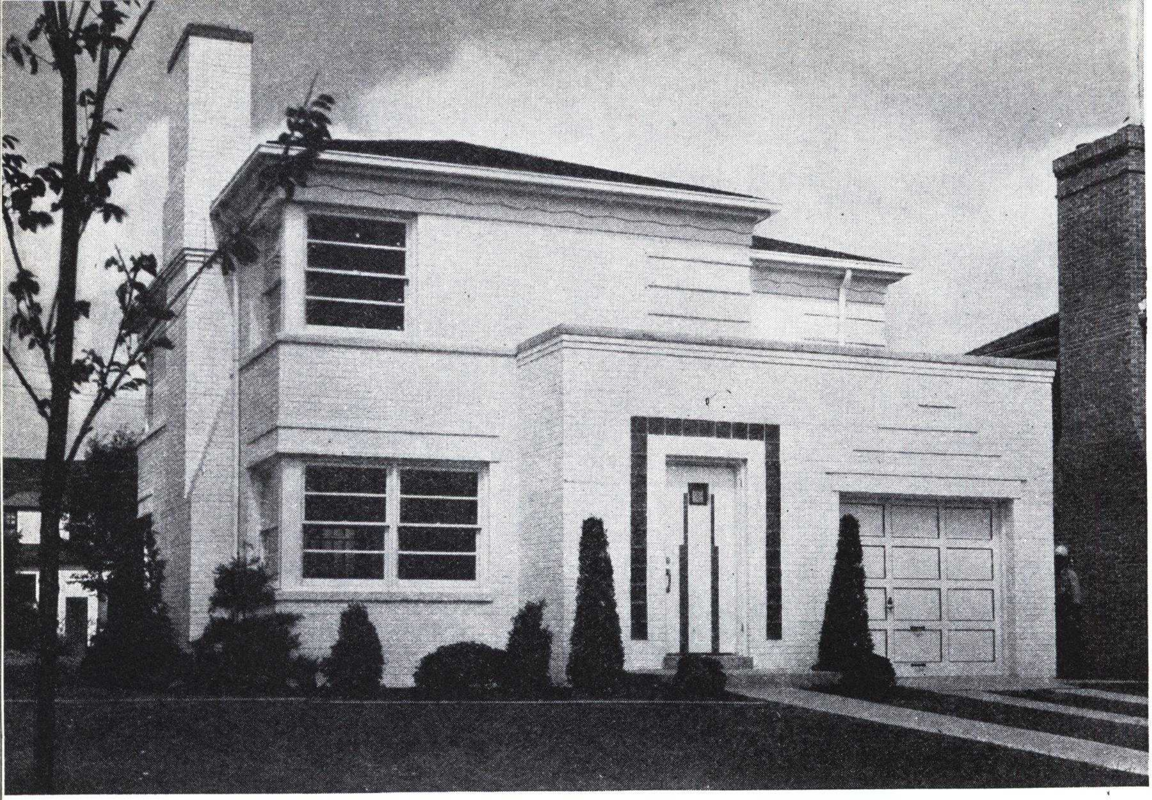


Basement Plan



Second Floor Plan

First Floor Plan



THIS W. C. Tackett home in Scarsdale, near Chicago, combines the types of modern styling and detail that have proven salability in today's market. Glass block used around entrance to light vestibule, corner windows with horizontal muntins, clean cut trim as seen in the exterior at the left and plan features as shown below and on page opposite all meet buyers' demands for more home value.

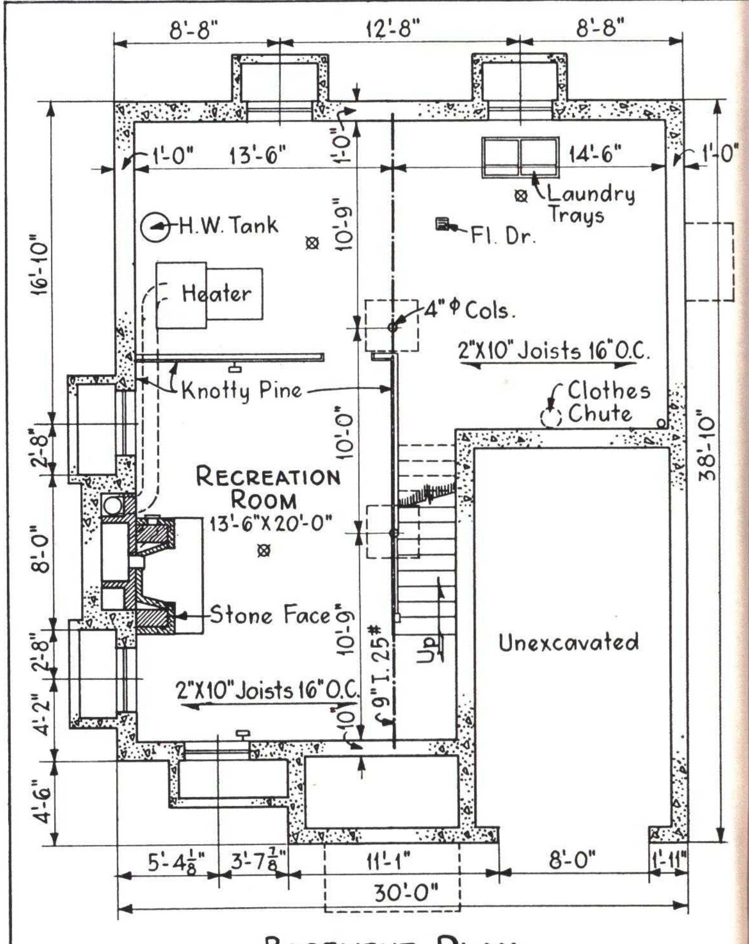
AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 174

Tackett Meets Home Buyers' Demands for Modern Features

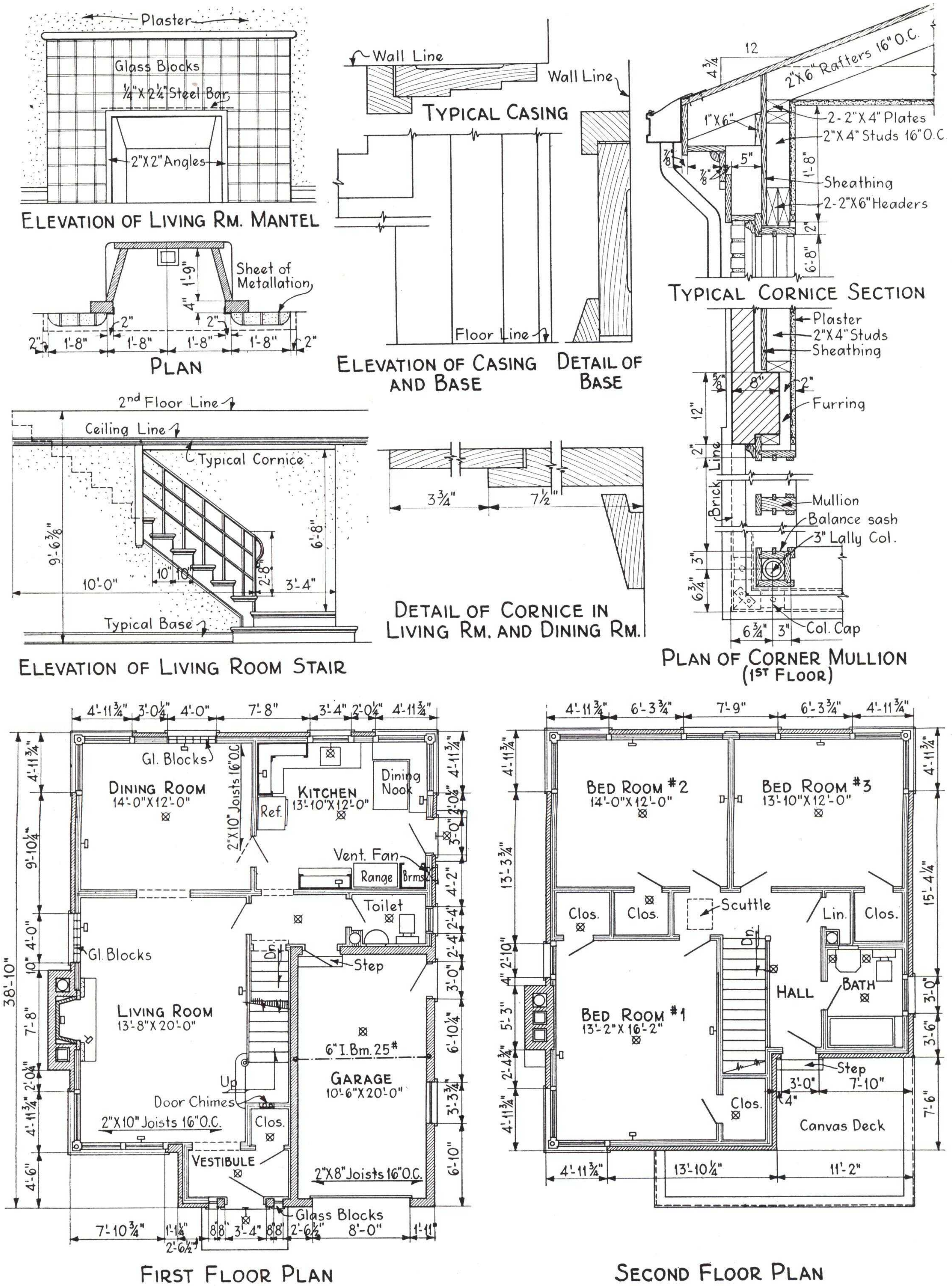
AS ONE of the outstanding builders of speculative homes in the medium size and price range in the Chicago area, W. C. Tackett, Inc., has been unusually successful in adding the extra value features to his homes which mean increased salability. This is particularly true in the field of modern design of the type shown above. Not being of extreme styling, it is more acceptable to the buying public than much of the radical modernism. Tackett is constantly testing public reaction to various new features as they are introduced, including equipment items, methods of room arrangement and exterior design. The architectural department of this firm is constantly making changes in the previous year's designs to offer more home for the money.

An outline of material and equipment features of Tackett-built houses are as follows:

Dry basements guaranteed by waterproofing and drain tile; recreation rooms paneled in knotty pine, with wood-burning fireplace; No. 1 kiln-dried lumber used throughout; Celotex Vaporseal and rock wool insulation; thick butt asphalt shingles laid over 15 lb. felt, or Edham wood shingles; heated attached garages with McKee overhead doors; finest quality woodwork featuring 1¾″ thick windows and doors; metal weatherstripping with bronze interlocking thresholds; metal lath ceilings and corners, U.S.G. cement plaster; tile floors and walls, built-in electric heaters and porcelain accessories in baths; reversible type electric ventilating fans in kitchens; all wiring in rigid conduits; Standard Sanitary and Kohler plumbing fixtures; automatic hot water heaters; Sunbeam winter air conditioning systems; Corbin solid brass hardware; Rittenhouse chimes; G-E electric clocks; bronze screens and Armstrong linoleum; all painting 3-coat work, using high quality workmanship and materials.



BASEMENT PLAN



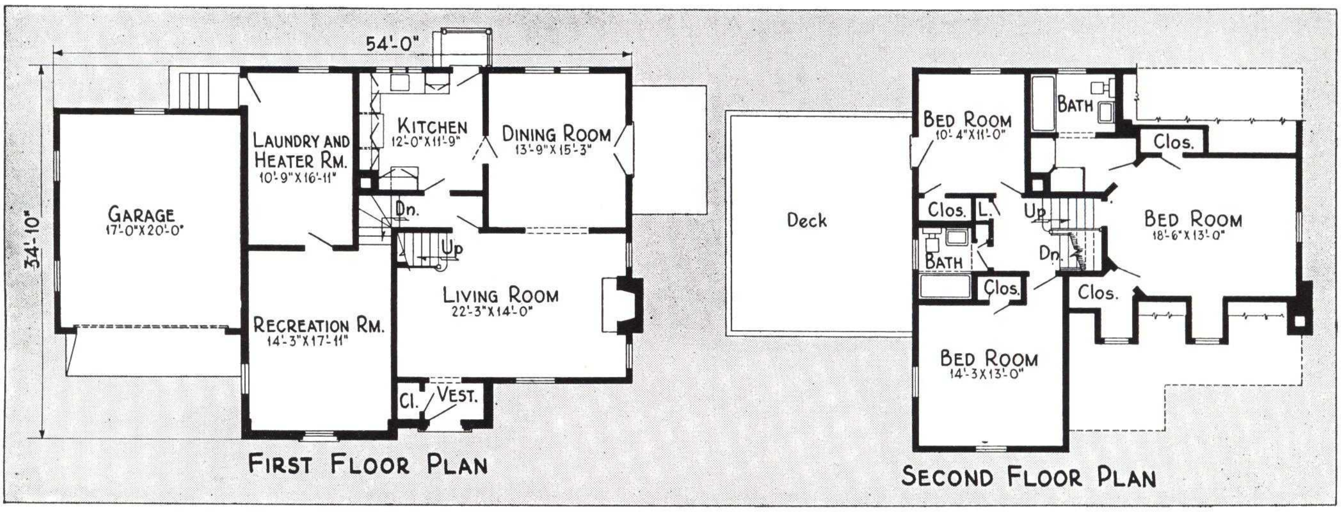
FLOOR plans of W. C. Tackett modern home with details of glass block fireplace, copper and wrought iron railing, trim and corner window.

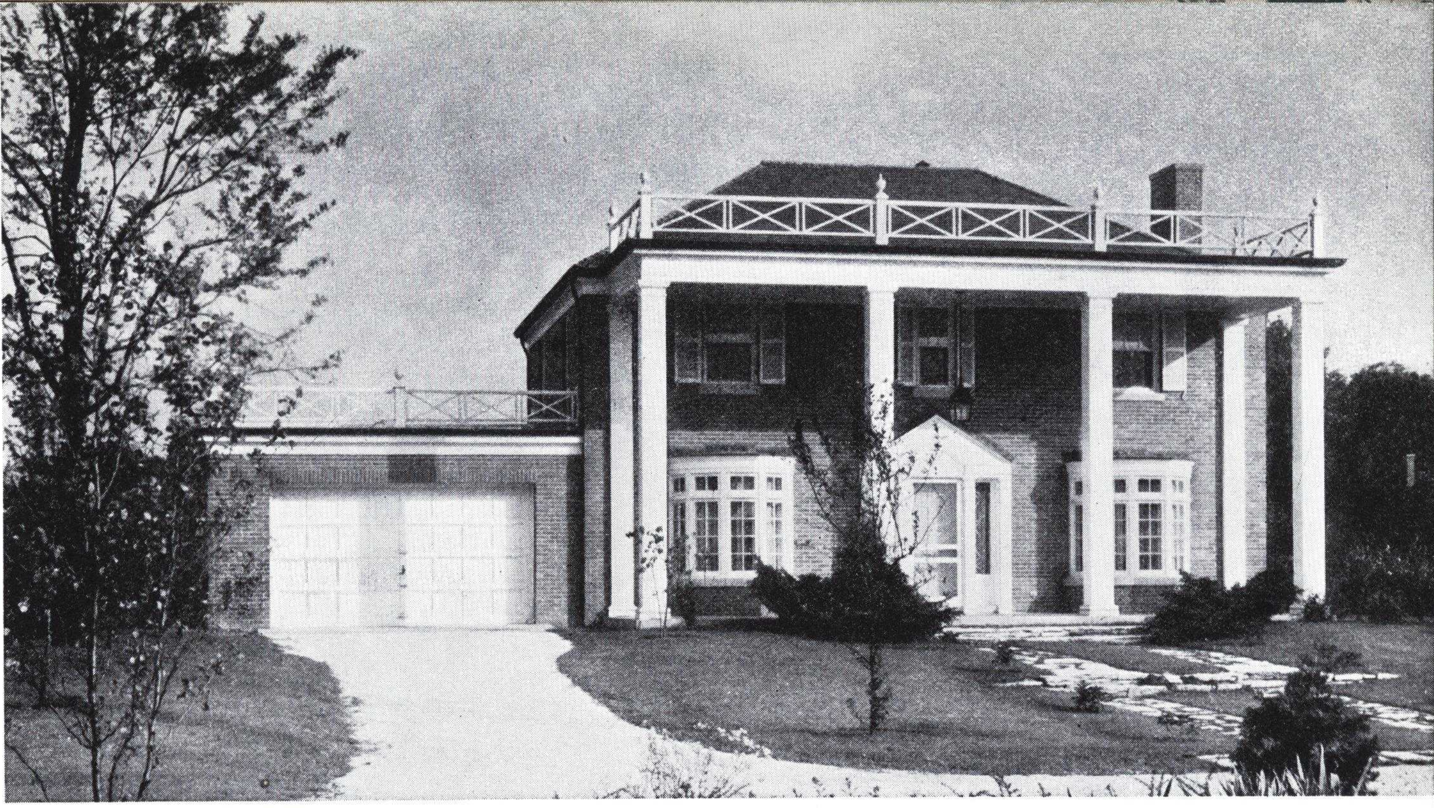
TWO NIXON HOMES—MODIFIED 4-LEVEL COLONIAL AND

Built by George F. Nixon at Glenayre, near Chicago. C. W. Lampe and Associates, Architects

THE two Colonial houses shown on these pages give some idea of the style range used in designing Nixon's Glenayre homes. Other houses in the development are of Cape Cod, Early American, Georgian, English and French styling modified to the needs of today's functional plan. All of them having been prepared by the firm's staff architects, C. W. Lampe and Associates, this wide range is not disturbing when the development is seen as a unit, but rather adds to the pleasing effect by avoiding the monotony of repetition.

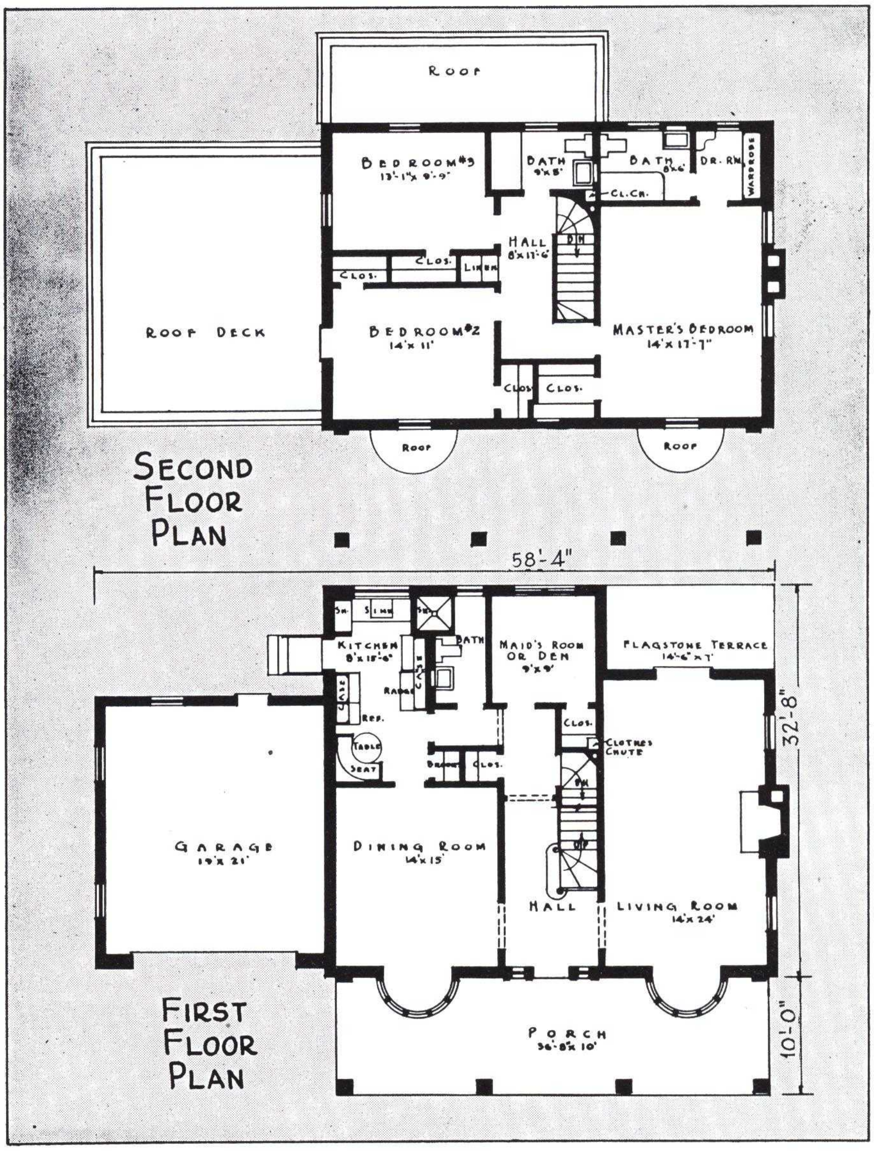
The Colonial house shown above, with plans below, follows the popular four-level layout which Architect Lampe is credited with having originated some years ago. The lower level contains a well lighted recreation room to the front and a laundry and heater room to the rear. A half-flight of stairs above this level, the large living room, dining room and kitchen are placed. Two bedrooms with a bath between are directly over the recreation room level, and the master bedroom and bath are above the living portion of the house. A two-car garage extends to one side, and a glazed porch off the dining room is placed on the other side. The entrance and first floor exterior beneath the overhang are faced with Briar Hill stone which harmonizes very nicely with the blinds painted a terra-cotta shade. Red cedar siding and shingles cover the balance of the exterior. The exterior attractiveness of this house and its workable plan are typical of Nixon's homes.



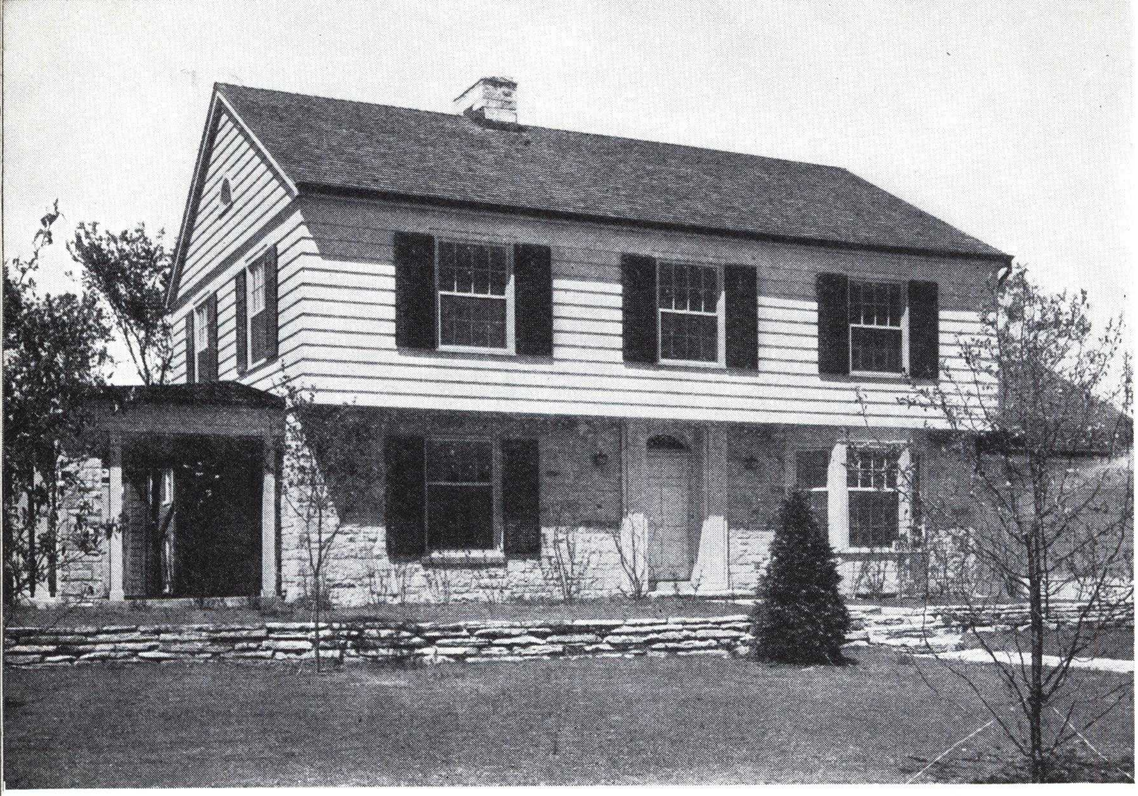


SOUTHERN COLONIAL

AMERICAN BUILDER TruCost FIGURES FOR THESE HOUSES ON PAGE 174



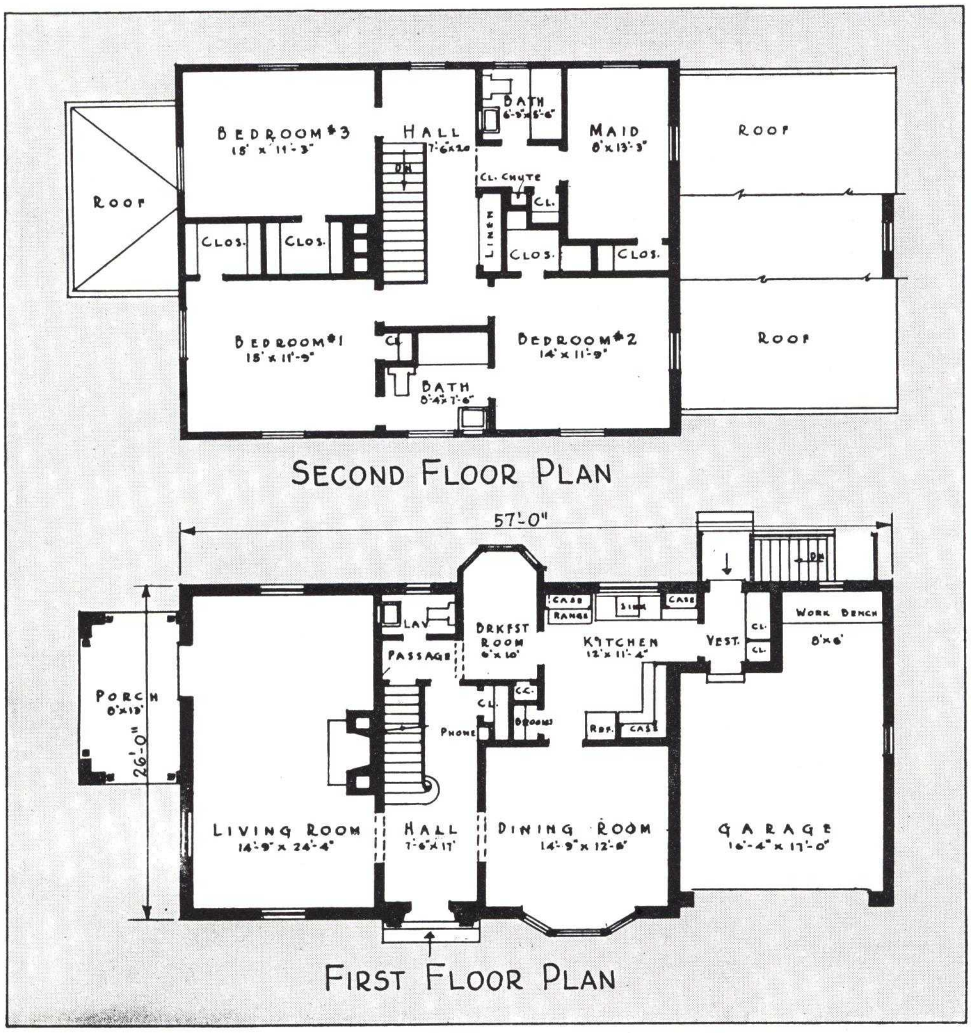
IN PLAN the seven rooms are very efficiently arranged around the center hall which leads directly back to a maid's room or den. The first floor bath is placed between this room and the kitchen, the latter being very compact and providing space for a breakfast corner. The well proportioned living room on the opposite side of the house opens onto a flagstone terrace at the rear. On the second floor there are three bedrooms with two baths, one of these being the master bath reached through the dressing room. Closet space is generous. A large sun deck over the two-car garage gives additional room for outdoor living.



AMERICAN BUILDER TruCost FIGURES FOR THESE HOUSES ON PAGE 174

CENTER HALL COLONIAL, 2-CAR GARAGE

Located at Glenayre Near Chicago, Ill.



SECOND FLOOR PLAN

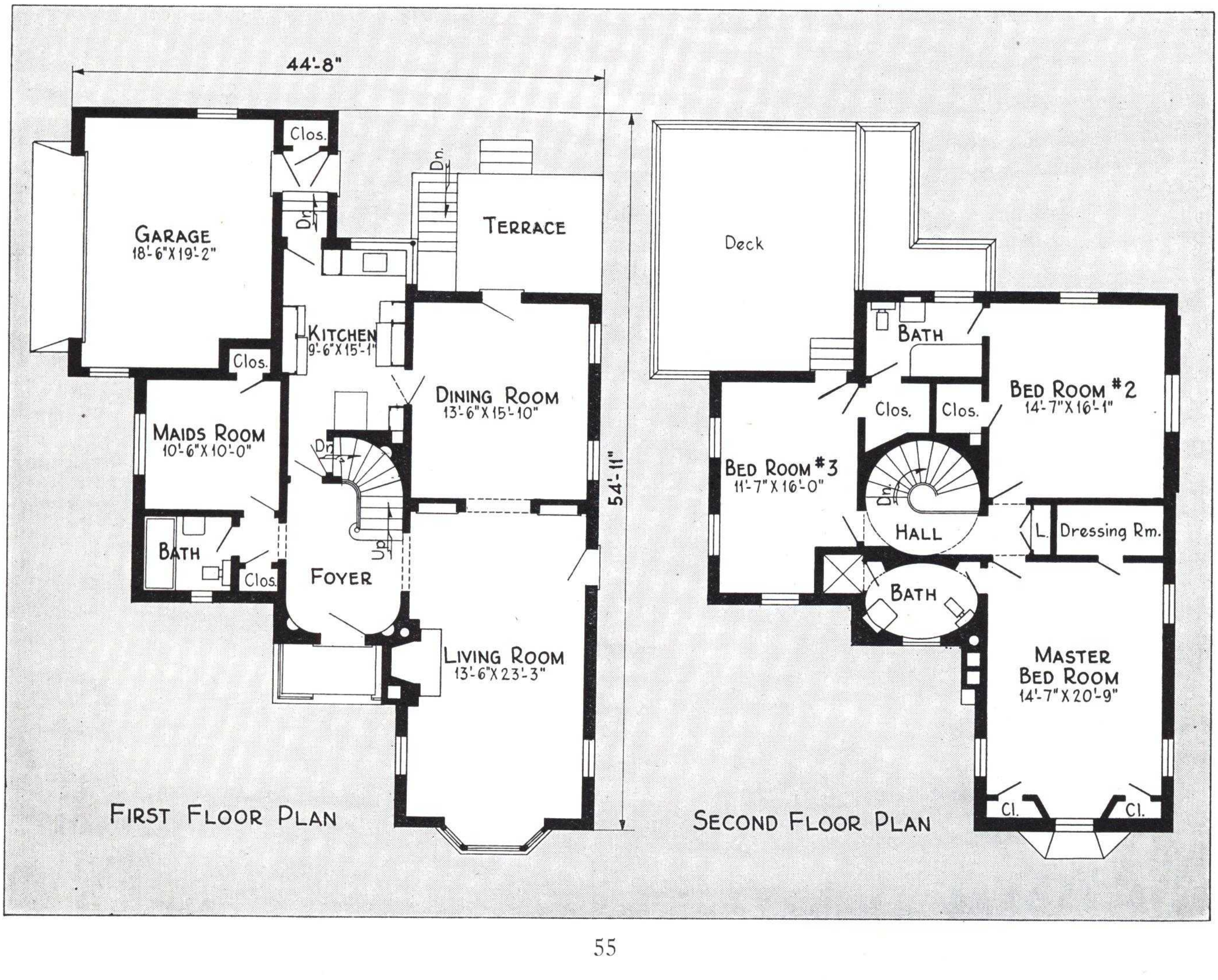
FIRST FLOOR PLAN

THE Colonial house with overhanging second floor at the left, like most houses with a simple rectangular plan, contains seven large rooms within what appears to be a moderate sized house on the exterior. Besides the living room, dining room and kitchen on the first floor, there are a good sized breakfast room, lavatory, generous stair hall and storage space. The four bedrooms on the second floor are all very well supplied with closet space. The two baths conveniently serve the bedrooms.

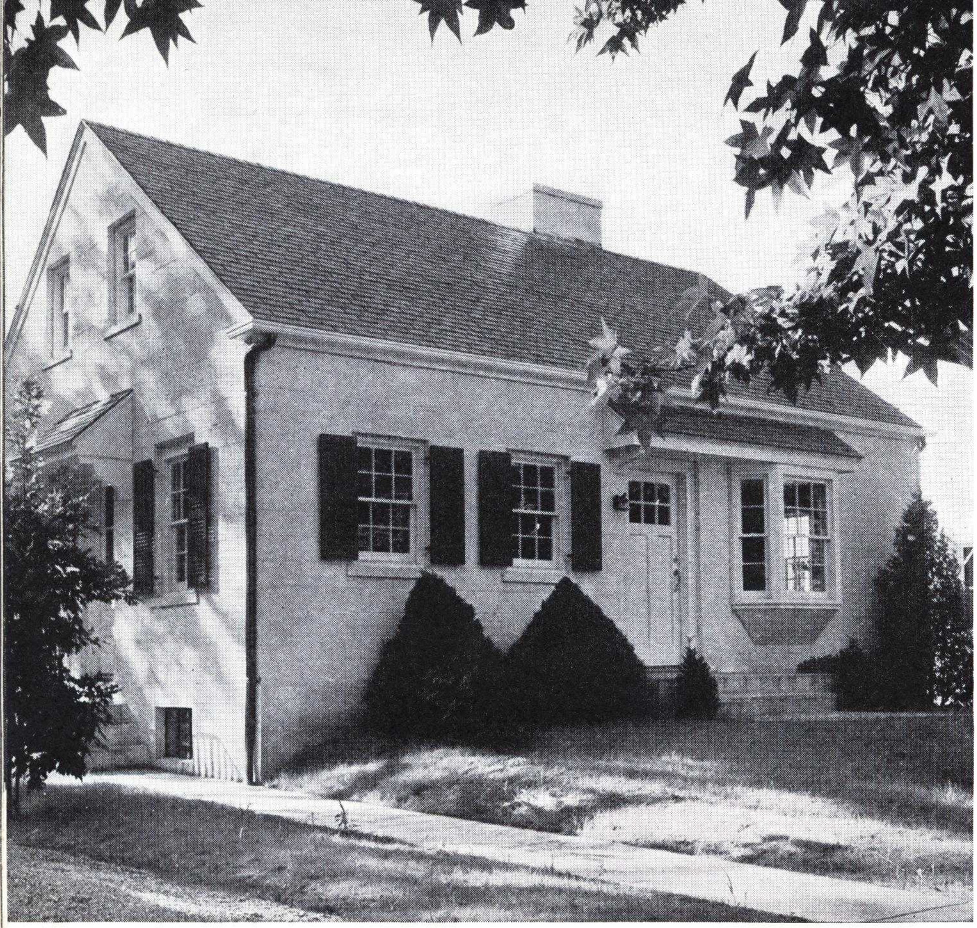
ON THE opposite page the largest of the Nixon houses, a 7-room English design, is shown. An unusual feature of this house is the foyer and circular stair. A maid's room with full bath is located on the first floor. Living room and dining room are separated by an arched opening flanked with bookshelves on the sides. Three large bedrooms, ample closet space, master dressing room and two baths, one oval-shaped off the master bedroom, occupy the second floor.

George F. Nixon, Builder, Chicago
C. W. Lampe and Assoc., Designers

7-ROOM ENGLISH WITH 3 BATHS



AMERICAN BUILDER TruCost FIGURES FOR THESE HOUSES ON PAGE 174

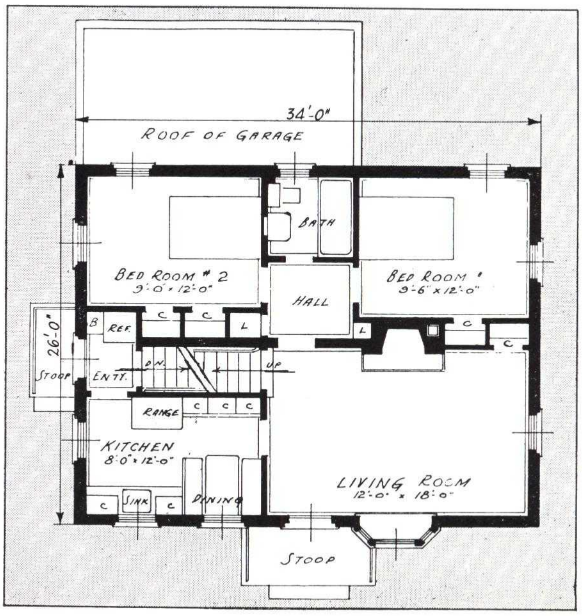


CINDER BLOCK CONCRETE walls with a cement wash exterior are used in this attractive little low-cost, firesafe home in White Plains, N.Y., built by William Reinhardt. The house also has precast joist and concrete slab subfloors. The architect is John T. Simpson of Newark, N.J.

CONCRETE WALLS, FLOORS

FLOOR PLANS of this economical concrete home show how the entire space is used with a maximum economy. With an overall dimension of approximately 29½′ x 22½′, Builder Reinhardt has worked in a 12′ x 18′ living room, 2 fair-sized bedrooms and bath, a kitchen with dining alcove, and basement and first floor stairs. There is room in the upper portion for 1 large or 2 small bedrooms.

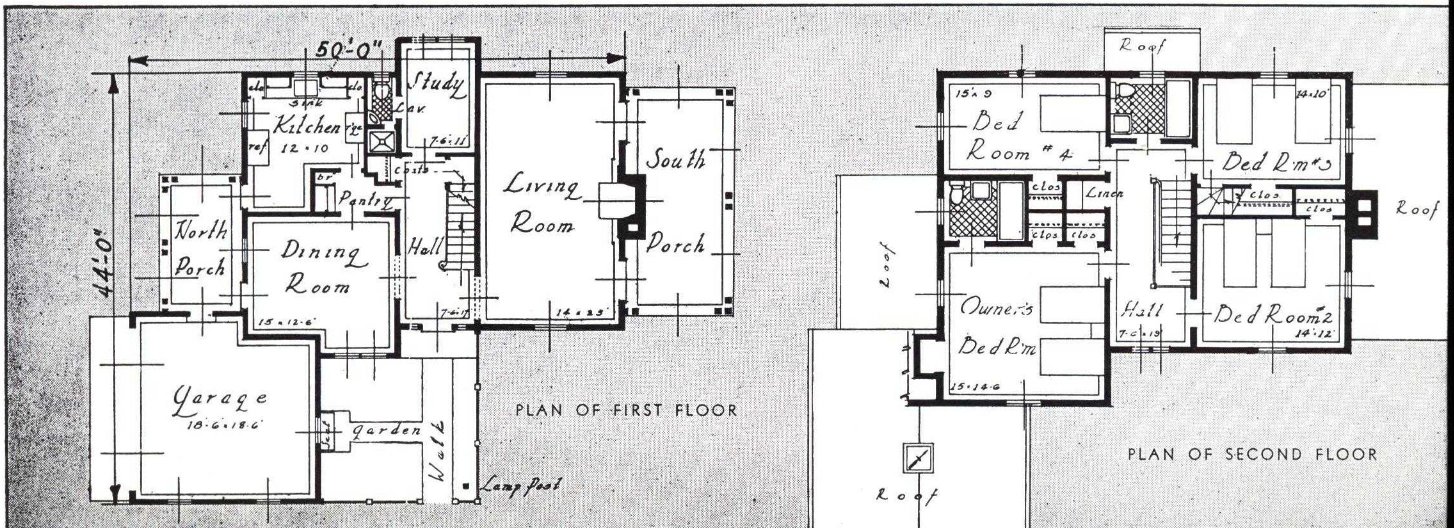
AT LEFT—View of dining room in concrete home at Alden Estates in Portchester, N.Y., showing use of precast concrete second-floor joists.



PLANNED AND BUILT FOR COMFORT LIVING

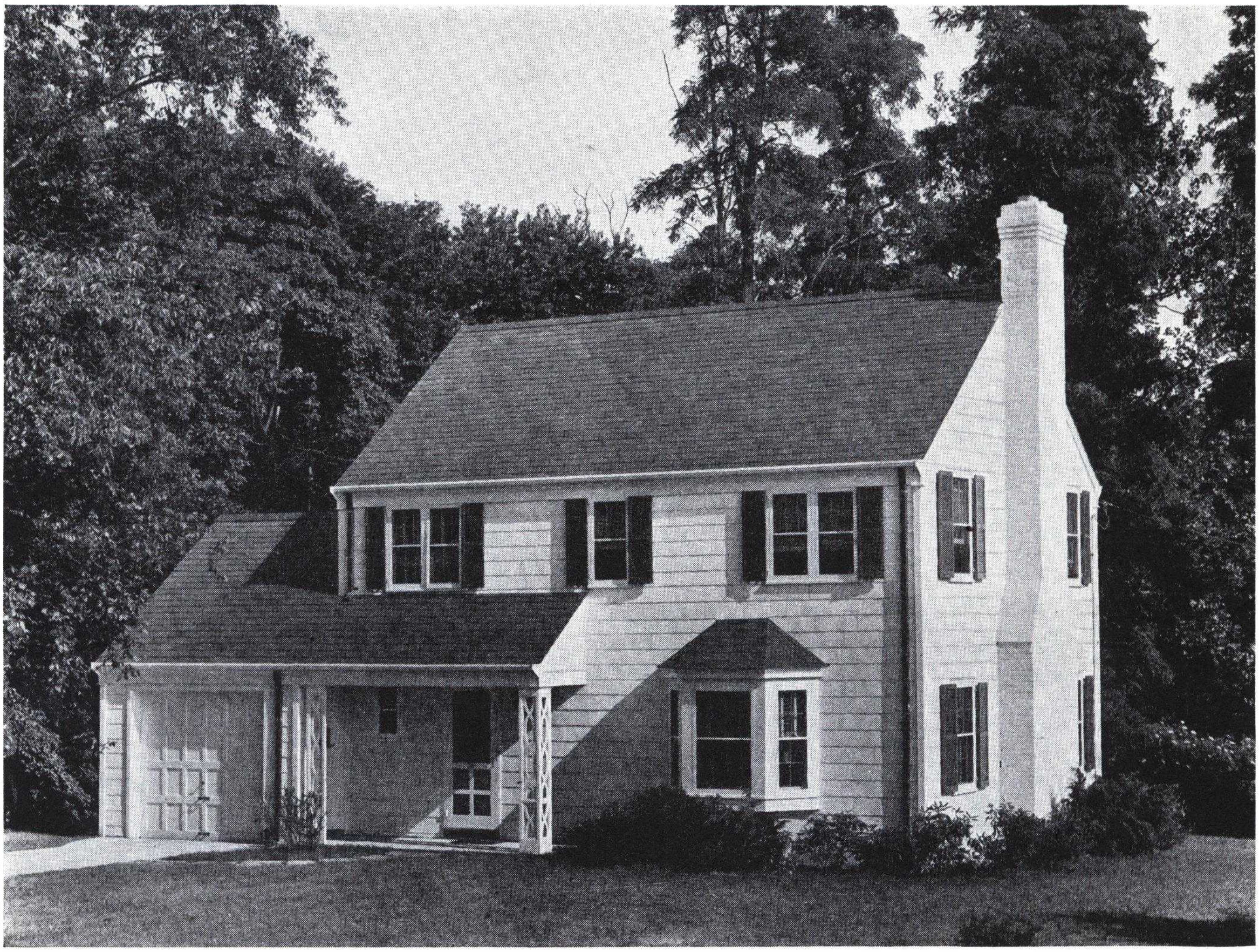
ARCHITECT THEODORE RICHARDS of White Plains, N. Y., has here produced a house with maximum comforts and conveniences—a luxurious house, yet not beyond the reach of the upper middle-class income group. The living room is large and well proportioned, with a southern exposure; pine paneling around fireplace. The study may be used as maid's room and bath. Upstairs is well laid out, spacious.

ONE OF THE FINE FEATURES is the fashion in which the garage has been handled architecturally and the detailing of the picket fence, lamppost and entrance way worked out to lend charm to the approach. House has 4 inches of mineral wool insulation, a 2-pipe vapor system with oil burning furnace.



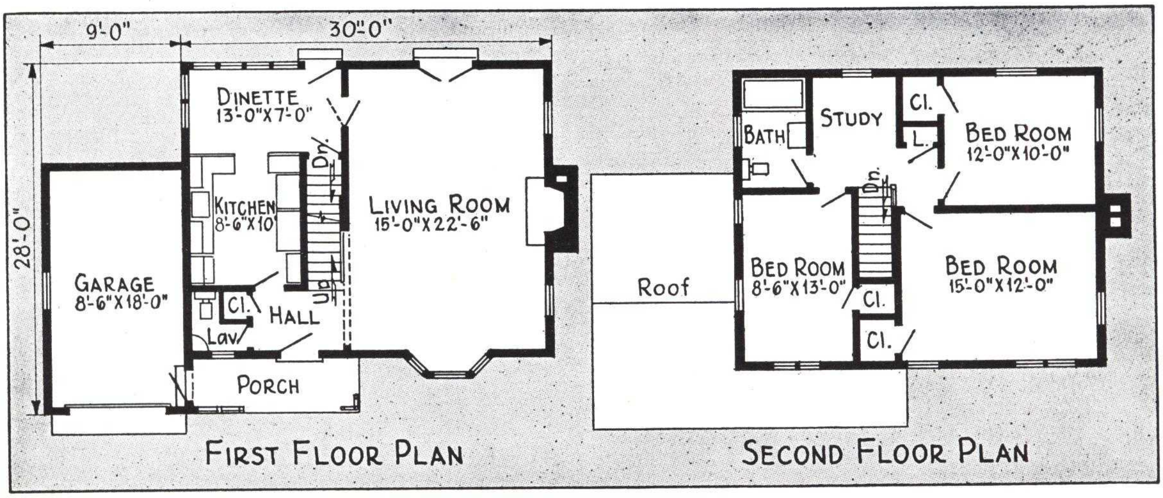
PLAN OF FIRST FLOOR

PLAN OF SECOND FLOOR



CASE STUDY IN GOOD DESIGN

GOOD design is a difficult value to judge, yet it is one of the principal factors in contributing intrinsic worth to a home. The above house, built by Whitson Improvement Corporation in its Monfort Hills community at Port Washington, N. Y., is a case study of merit. Designed by Architects Kimball & Husted, it is located on the top of a hill with a commanding view, and was planned to fit that site and meet the particular needs of the owners. Its main charm is its simplicity, which is reflected both in the unostentatious exterior lines and the fine but restrained interior details. Exterior is of cement-asbestos shingles. Roof is of slate. It is insulated and air conditioned. The enormous living room has a fine bay window. Guest closet and lavatory are off the main hall. A well planned dinette with extensive windows replaces the conventional dining room as is being done more frequently today.



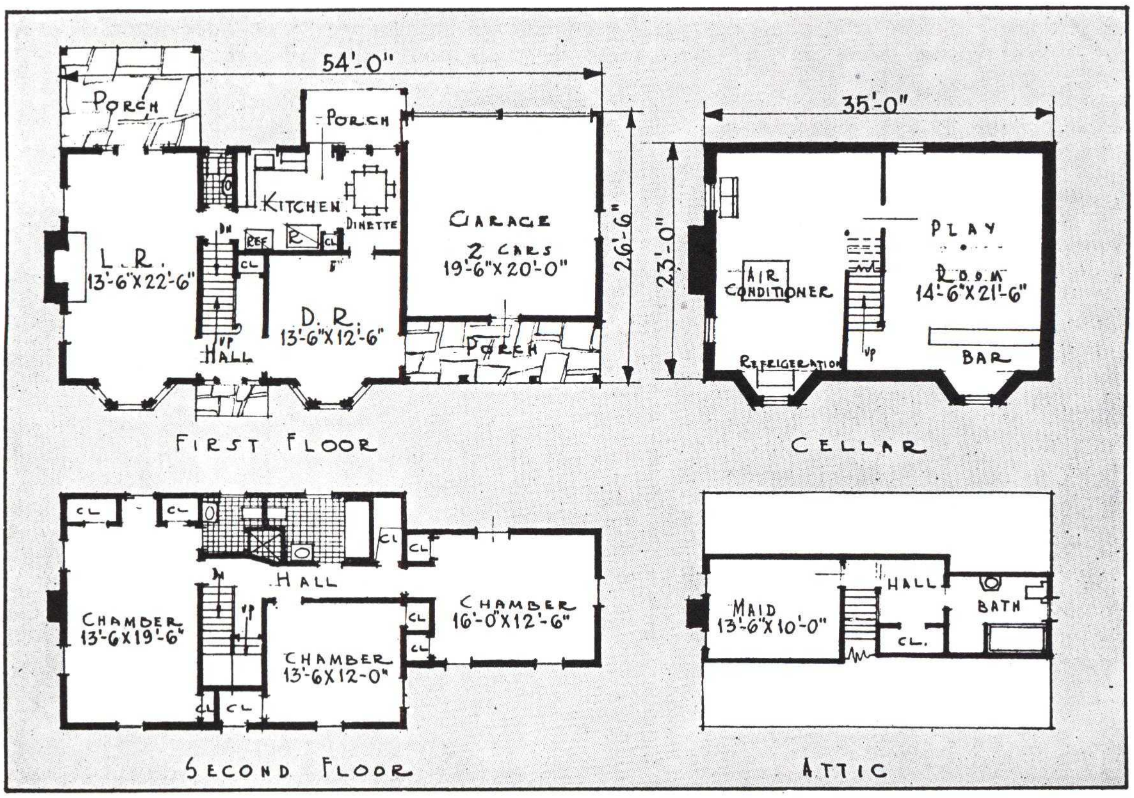
AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 174

LARGE living room, downstairs lavatory, dinette with large windows feature this floor plan by Kimball & Husted.

AS AN experienced builder, John A. Baldwin of Teaneck, N. J., is in a position to make home ownership simple and easy. Most of the criticism that home buying is "difficult" is proved untrue when the facts are known. This attractive house designed by J. Norman Hunter is complete, comfortable, easy to buy and easy to own. Floors throughout are of quartered oak, hardware of solid brass. Floors are of firesafe slabs, roof of slate. It is completely insulated, weatherstripped and equipped with year-round air conditioning. The spacious rooms, two-car garage, three baths and maid quarters make it an all-around satisfactory house. The cost to the owner of such a home in the Baldwin development is about $85 per month.

EASY TO BUY EASY TO OWN

John A. Baldwin, Builder



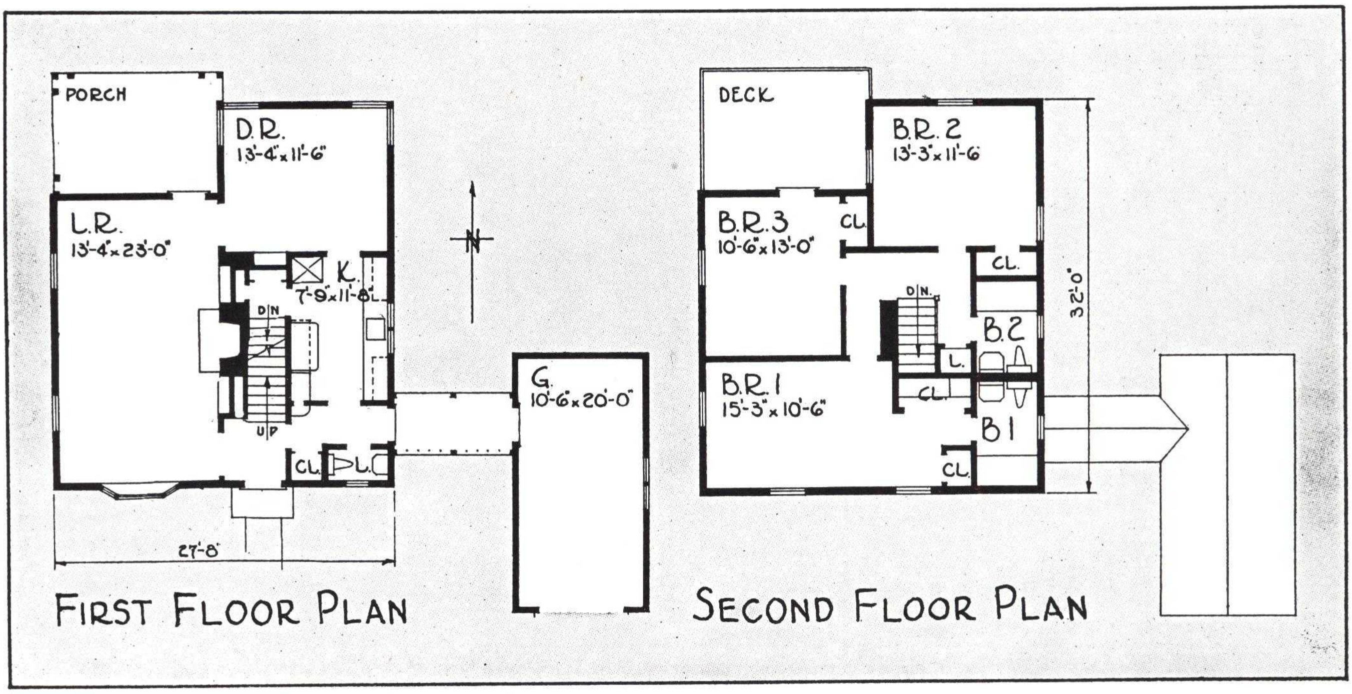
THIS plus value floor plan provides ample rooms, comfort and livability throughout.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 174

TRIM COLONIAL WITH EXCELLENT 6-ROOM PLAN

Built in Evanston, Ill., L. Morgan Yost, Architect, Wilmette, Ill.

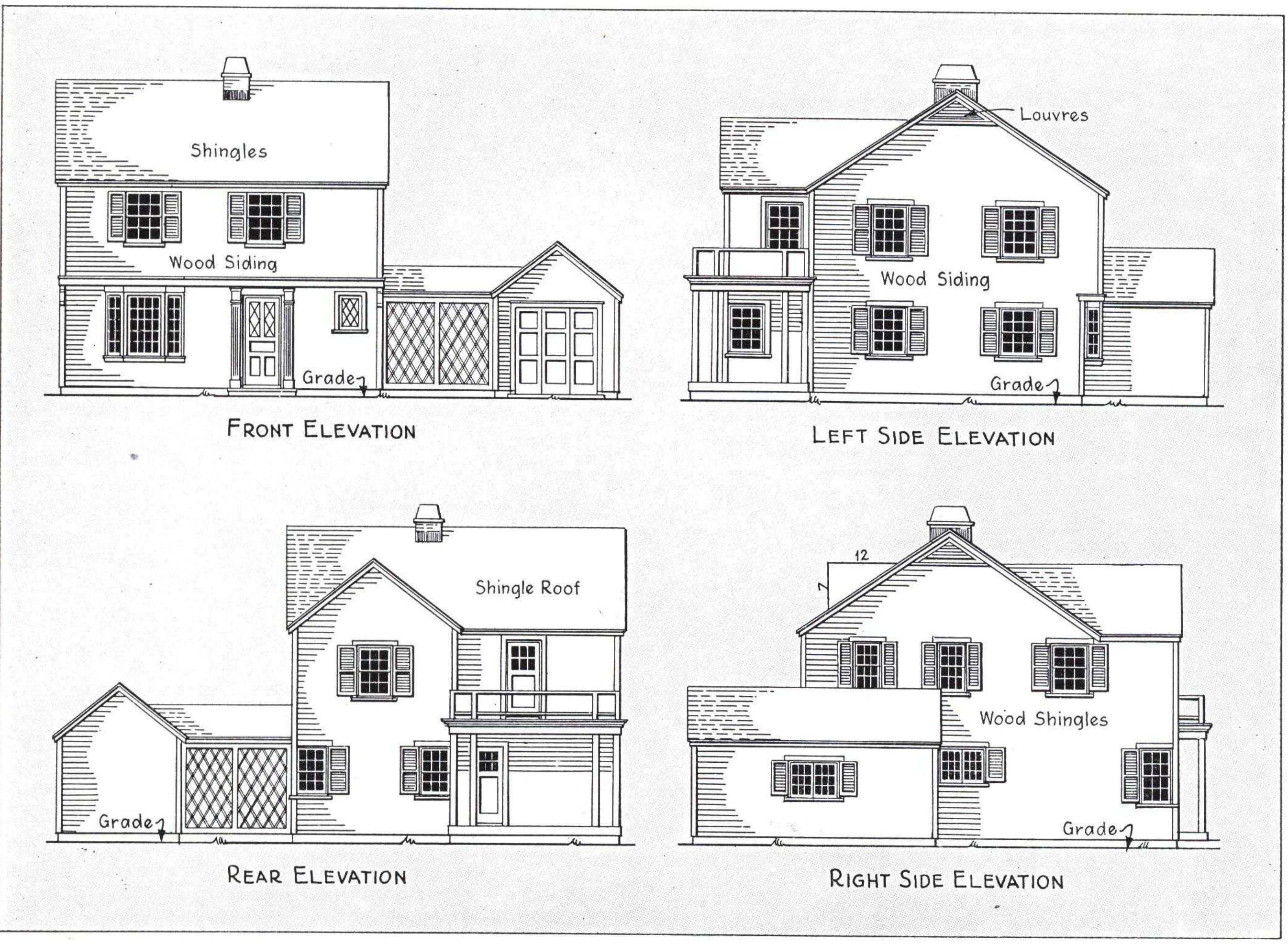
AS AN EXAMPLE of proper space utilization for modern livability, the Colonial house above is outstanding. The plan contains many unusual features, all compactly arranged within a relatively small floor area. Some of these features are the narrow card table closet located off the front hall, a firewood bin opening both to the basement stairs and to the living room, and a telephone passage between the service hall and kitchen plan desk. This service hall provides good access to the garage, lavatory, guest closet, located as it is between the kitchen and front entrance. The well proportioned dining room and the end of living room with porch overlook the rear. On the second floor there are three good sized bedrooms with ample closet space. The placement of the two baths allows economy of installation. A sun deck over the porch is reached through one of the bedrooms.



ALL ELEVATIONS of this trim Colonial house have been designed in pleasing proportions by Architect Yost. The garage with connecting passageway gives the view from the front additional width, as seen in the elevation below. This portion of the house was planned for future enlargement at the owner's request; a maid's room or first floor guest room can later be built between the garage and the house, the present first floor lavatory becoming part of a bathroom. The exterior treatment consists of white pine beveled siding with 1x8 flush boards below on front. The lattice design is repeated as a grille over the lavatory window and diamond shaped panes in the front door.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 174

Other design, construction and equipment features are as follows: Compact gas equipped kitchen with Crane sink set between adjoining counter tops, built-in cabinets, Magic Chef range, Electrolux refrigerator, Ilgette ventilating fan and Armstrong linoleum on the floor. The Bryant winter air conditioning system and water heater are also gas-fired. The basement recreation room has a fireplace. Exterior sheathing is Insulite Bildrite board, and interior walls are finished with three-coat plaster on Rocklath. J-M rock wool was used over second floor ceilings. Roof is Flintkote asphalt shingles. Baths have Kohler fixtures and walls finished in Veos tile; a dressing alcove adjoins the master bath. The garage is equipped with an Overhead door.

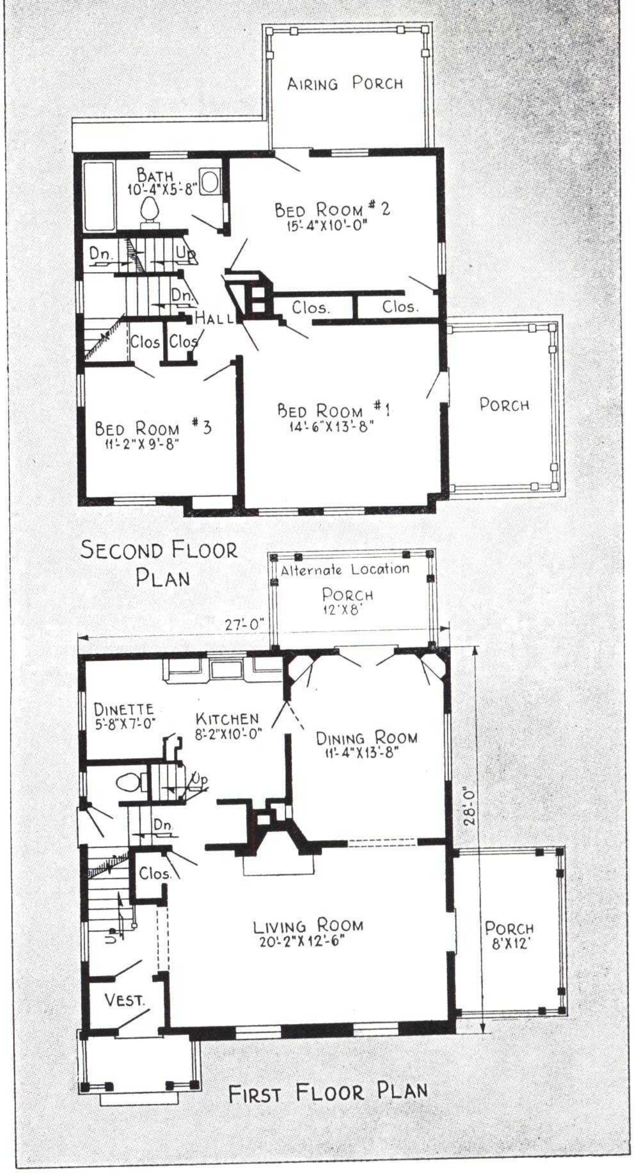


Houses Put Together with Screw Nails Add to Quality Reputation of Ohio Builder

AT first glance the house shown below, with floor plans at the right, might appear to be just another attractive, well planned house. However, C. Erroll Jones of Cleveland, Ohio, builder and designer of this house, has created a splendid reputation for quality construction by using materials and accessories that assure added customer satisfaction.

He has built over 150 homes ranging in price from $6,500 to $25,000, and having studied architecture, he has been responsible for the design of 80 per cent of them. Since 1930 one of the extra value items going into Jones' houses has been Helyx drive screw nails. Asked if the extra cost paid, Mr. Jones has said: "To get the kind of work I do, a contractor has to establish a reputation for quality work. When I build a home, I know my reputation depends on the security, solidity and permanence I put into it. And the use of drive screw nails has helped me build up my reputation for quality work. Of course, in some of my houses I use both common and drive screw nails, but I always use the latter for stair work where the added security counts most. I particularly like them for siding and laying floors.

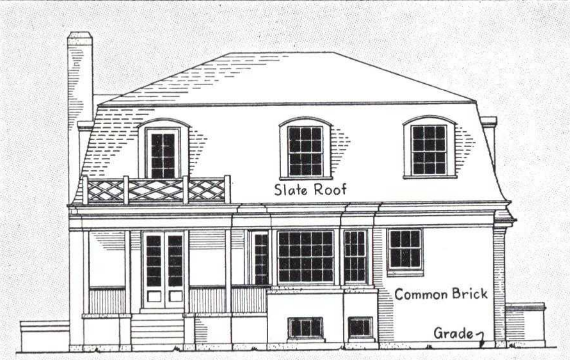
When questioned about any sales resistance to the added cost, Mr. Jones continued: "I make it a point to explain to all my customers that for approximately $200 more I can build the average house screwed together at joists, sheathing, floors, roofing, siding and that additional cost will be saved many times over in repairs. Because there will be no coming back to the job for me on such things as squeaking floors, there is added profit."



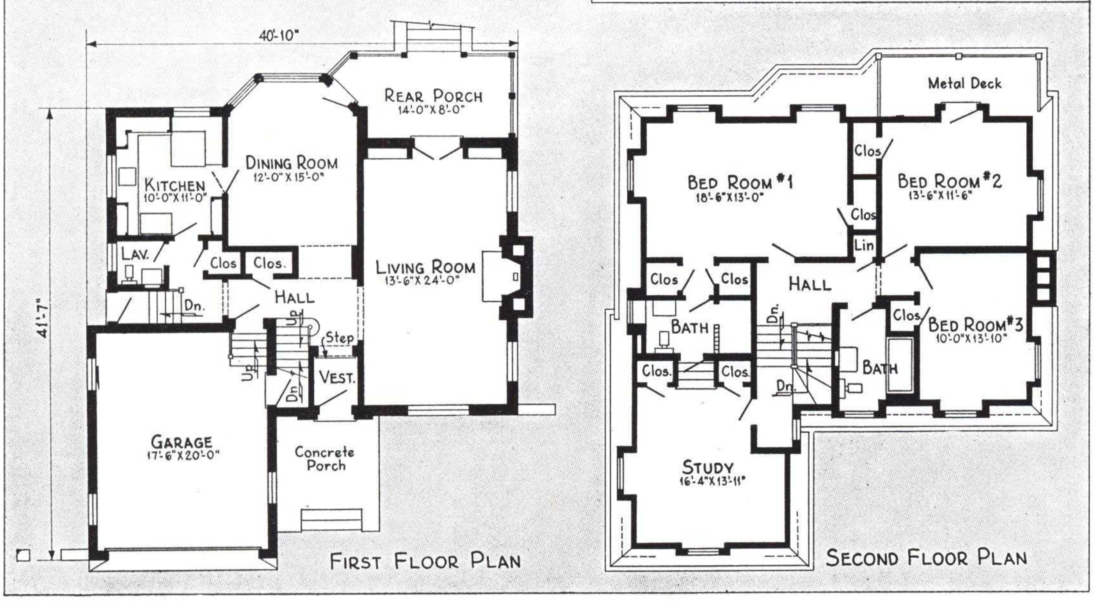
AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 174

THIS neat 6-room early American home built by C. Erroll Jones, of Cleveland, uses stone on the first floor front with vertical boards and battens above, and the balance of the exterior in shingles laid with an uneven butt line. Plan is compact and entirely convenient. Unusual features include dinette arrangement off kitchen, dining room corner cupboards, living porch with deck in either of two locations, side or rear.

Unusual 7-Room Plan in Illinois Home



Rear Elevation



PICTURED above is an unusual French style design built in Kenilworth, Ill., by James Faulkner. The space economy of this house is very evident when front elevation showing attached two-car garage with decorative door treatment and low mansard roof line is contrasted with the interior roominess as indicated in the floor plan. Off the front entrance hall there are large living room, dining room well lighted by the wide bay, kitchen, lavatory, rear hall to grade entrance and access to garage and basement. A wormy chestnut paneled study is directly over the garage, and three good sized bedrooms with two baths are located on the upper second floor level. Storage space is most ample throughout.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 174

CONSTRUCTION highlights include common brick veneer painted with Medusa white, Bangor slate roof, Stanley garage hardware, L-O-F glazing, 4-inch Gimco mineral wool insulation throughout, Standard fixtures, oil-fired winter conditioning, and Red Seal wiring (outlets around living room every 18 inches and 87 more outlets in the balance of house).

Cape Cod Design Offers Wide Adaptability

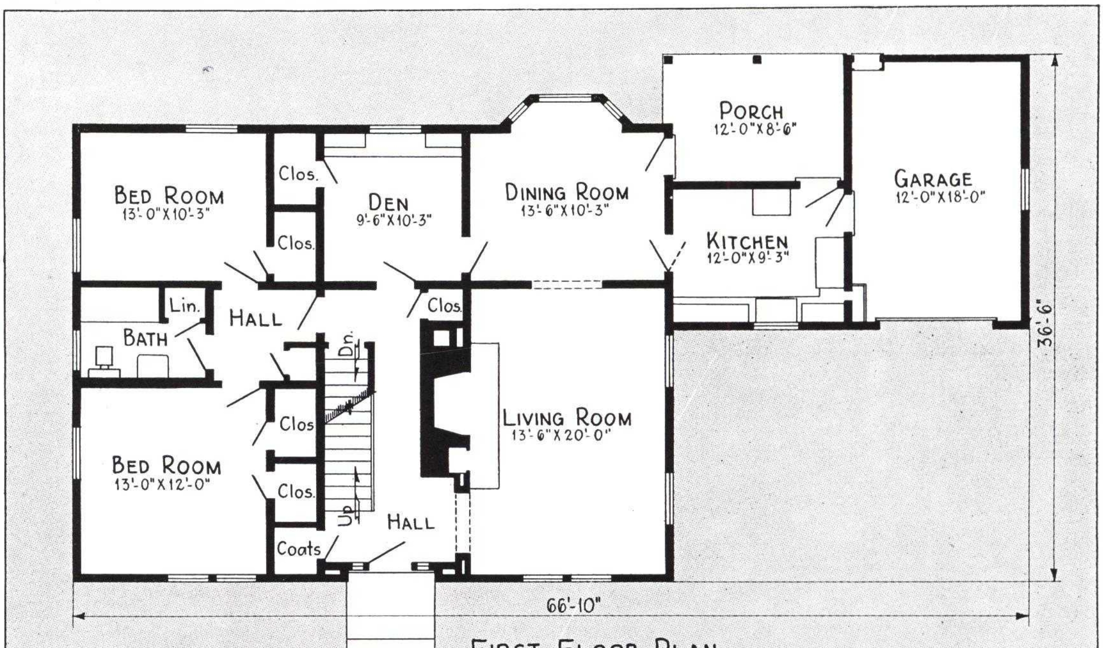
Wichita, Kansas, Home Accommodates from 2 to 5 Bedrooms Within Its Trim Lines

THIS home in Wichita, Kans., was designed by Architect B. G. Mains of that city. The architect had the problem of fitting the house to the owner's furniture and professional requirements, and at the same time kept close to the Cape Cod theme, making it authentic in many respects. Beyond this he has created a house that has decided livability and flexibility in that from two to five rooms can be used for sleeping quarters including the den and two upstairs bedrooms. Although the width limits placement on any but a wide city lot or country acreage, it would be adaptable to a corner or inside lot if turned lengthwise and garage redesigned so doors face street.

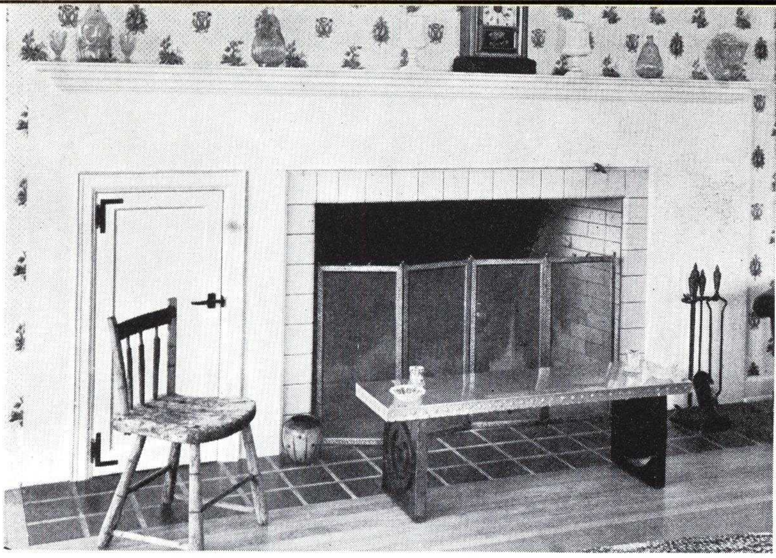
There are six rooms on the ground floor, all of which are finished. The second floor, with the exception of the sub-floor and rear dormer windows, was left to be finished later. All heating ducts and plumbing equipment leading to the second floor line were put in to save cost later when completed. The recreation room in the basement was also left unfinished.

The entrance hall leads back to the bedroom hall and door to the library-den. Knotty pine paneling has been used in the den which the owner, an attorney, uses for his law office. A door from this room opens into the dining room, and from here there is direct access to living room, kitchen or the screened-in dining porch. An attached garage is next to the kitchen.

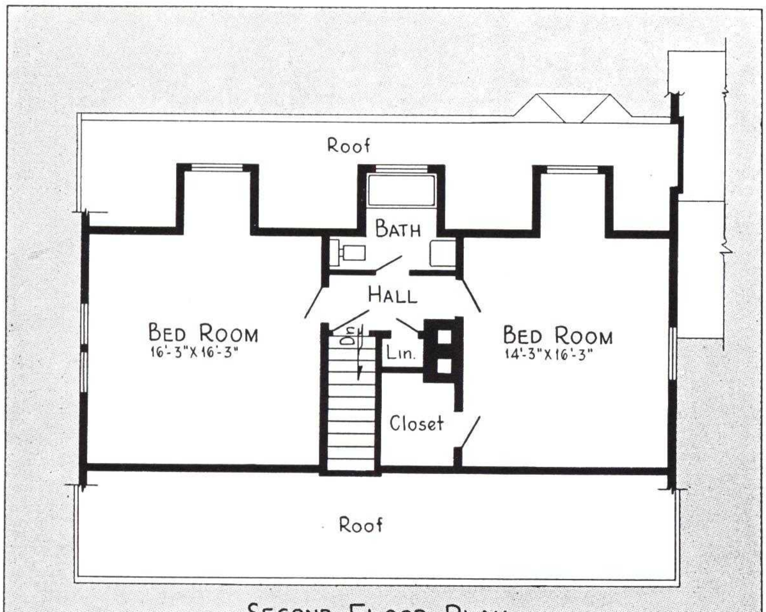
THE well arranged floor plan of the Cape Cod design below indicates exceptionally fine closet and storage space throughout. A built-in can receiver and a grocery receiver are extra equipment in the garage.



First Floor Plan



SIMPLE mantel in Wichita home features tile at fire opening and on hearth.



Second Floor Plan

SECOND floor was designed by Architect B. G. Mains of Wichita, Kans., to accommodate two large bedrooms and bath to be finished later.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 174

OUTLINE SPECIFICATIONS FOR WICHITA CAPE COD HOUSE

Foundation: Poured concrete, asphalt waterproofing, vertical and horizontal 5/8" steel reinforcing bars, termite shield.

Basement: Unfinished; wood-burning fireplace unfinished, Andersen wood basement sash.

Exterior: Siding 3/4" x 10" red cedar; shingles No. 1, 18" stained two coats.

Framing: Joists 2 x 10, 16" o.c.; studding 2 x 4, 16" o.c.; ceiling joists 2 x 6, 16" o.c.; diagonal sheathing 1 x 12 covered with one thickness of Threaded Felt; sub-flooring 1 x 12, No. 2 covered with Red Rosin paper; roof sheathing 1 x 4, No. 2 spaced 2½" apart; roof rafters 2 x 4, 24" o.c.; all dimension lumber No. 1 white pine.

Windows: All frames Andersen white pine with metal weatherstrips.

Doors & Frames: All door frames white pine; all doors 6 panel Colonial white pine.

Flooring: All flooring 13/16" x 2¼" random length select grade oak.

Trim: All interior trim white pine.

Bathroom: Standard plumbing fixtures; linoleum floors and Linowall wainscot; shower over tub.

Kitchen: Built-in cabinets with Standard plumbing and linoleum drain and splash boards and floor.

Library: Vertical knotty pine paneling with built-in bookcases and window seat.

Walls: All interior walls lath and plaster with exception of library wall.

Porches: Screened porch with flagstone floor in rear; front stoop flagstone.

Garage: One-car attached garage with Andersen upward-acting door.

Hardware: All McKinney hand forged thumb latch type with the exception of the bathroom and kitchen which is chromium finished brass.

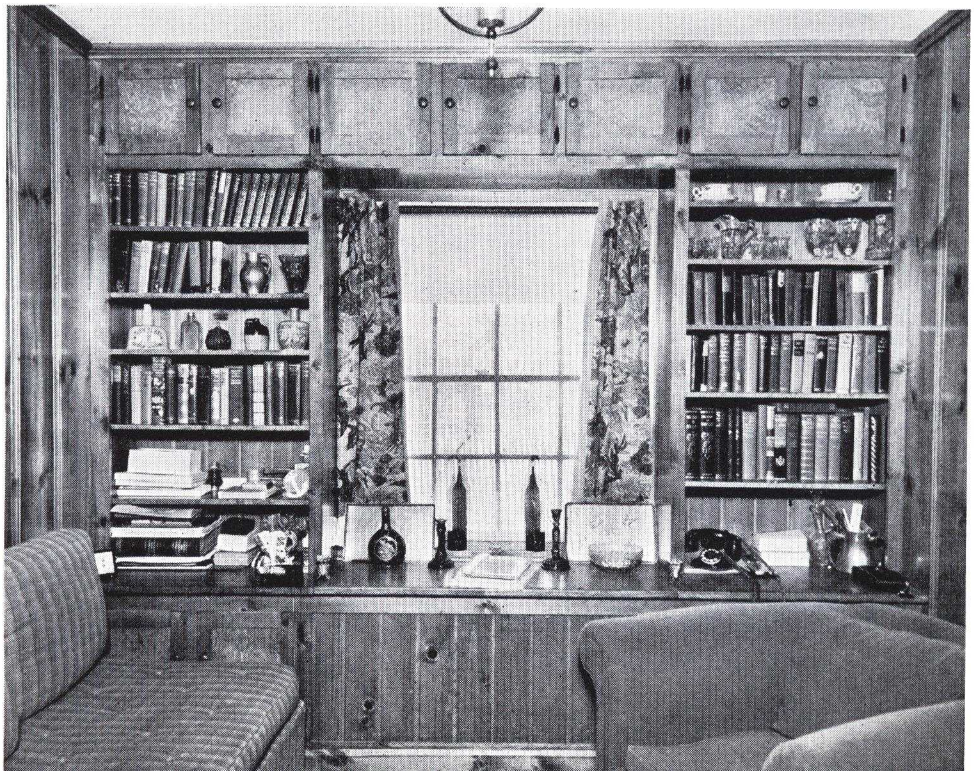
Insulation: 4-inch mineral wool in the rafters and second floor ceiling joists.

Plumbing: All fixtures Standard Sanitary Mfg. Co.; all water pipe 3/4" galv. steel; hot and cold water supply and floor drain in basement.

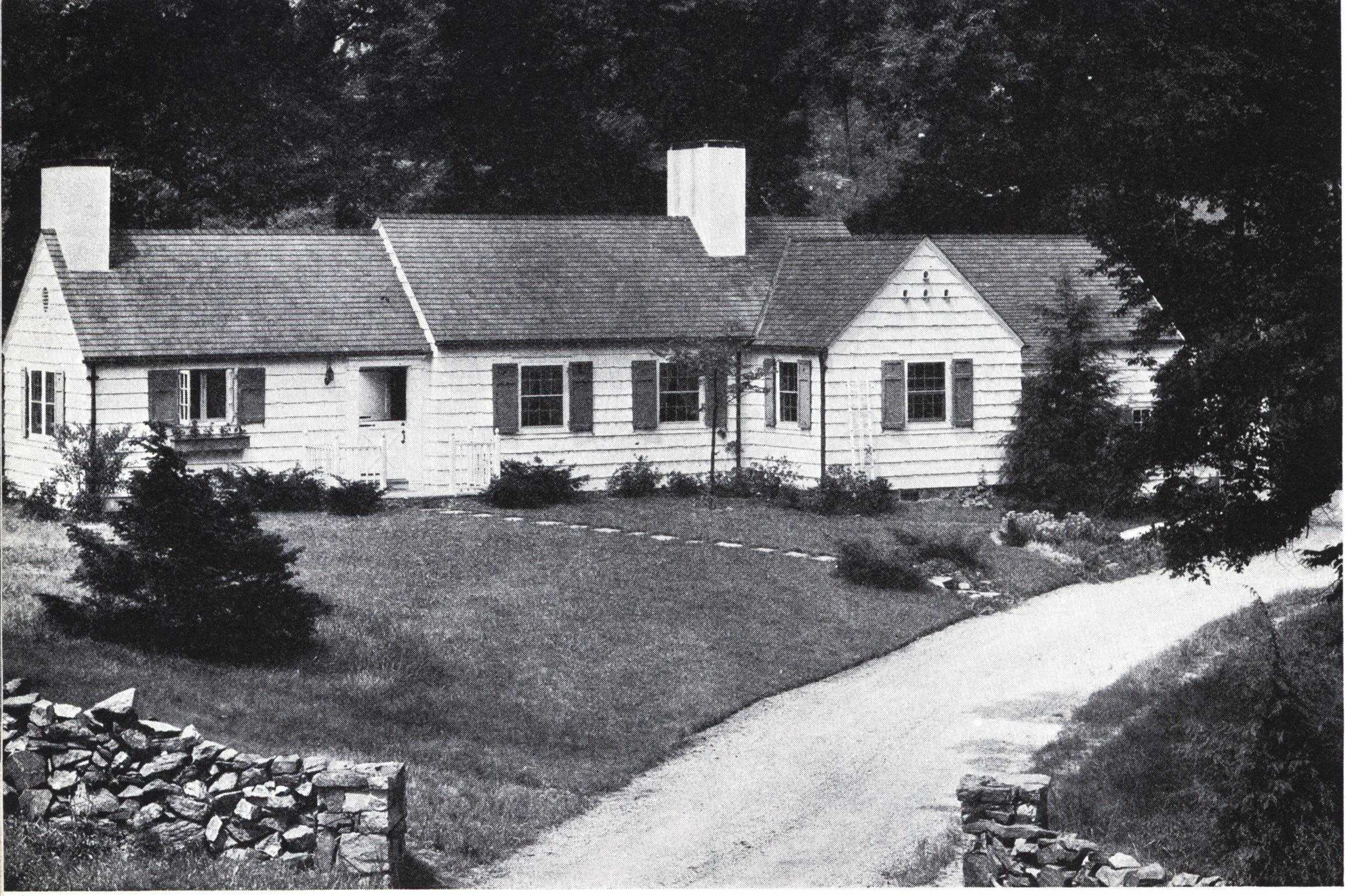
Wiring: All wiring BX cable.

Heating: Gas-fired blower type heating plant with thermostat control; heat registers 6' 6" above floor.

Painting: Exterior three coats Pratt & Lambert outside white; interior four coats Pratt & Lambert "Cellutone" egg-shell white.



KNOTTY pine paneling and built-in bookcases are shown as built in the den of this Cape Cod home. Notice the storage cupboards over window.

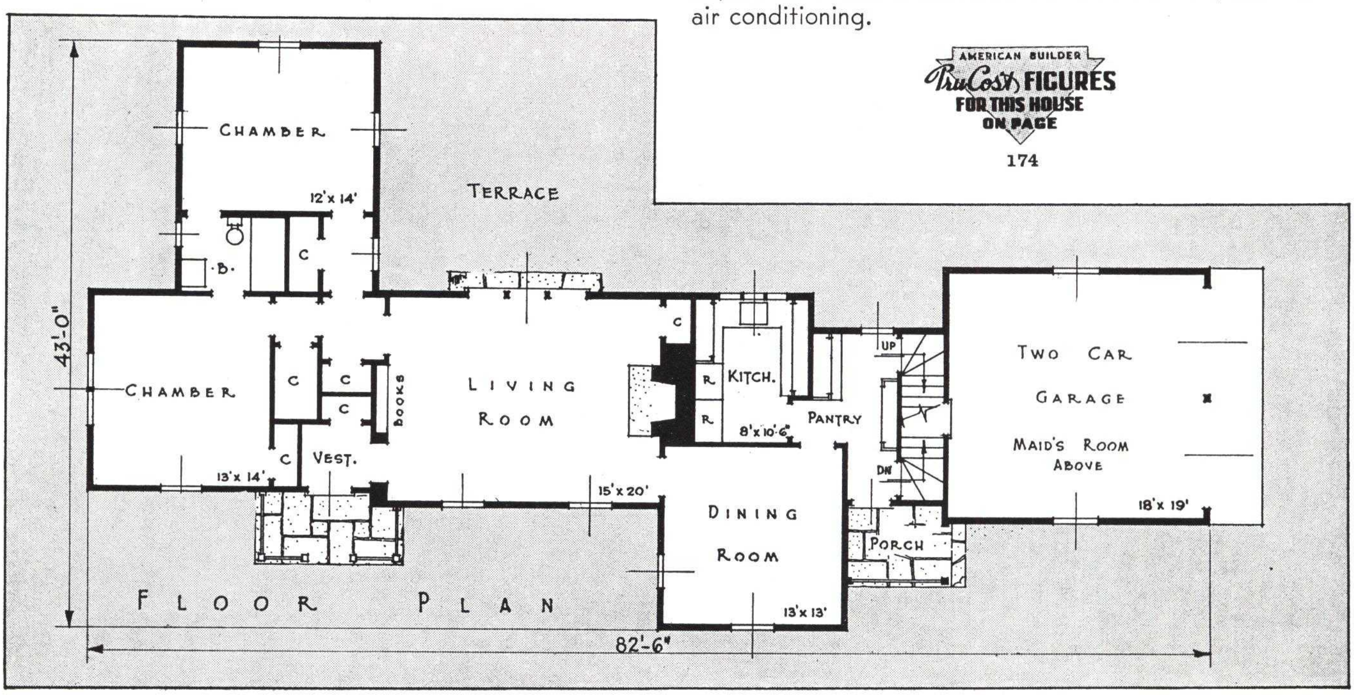


RAMBLING COLONIAL IN RURAL CONNECTICUT

Chester A. Patterson, Architect
Peter A. Cameron, Builder

ALL OF THE ROOMS of this country house in Connecticut are on one floor except a maid's room and bath over the garage, the floor of which has been dropped. There is good circulation between rooms and plenty of light and air. The hand-split exterior wall shingles are painted white, and the roof a tobacco brown. Blinds are blue-green. The front entrance detail with picket fence around flagstone stoop and Colonial hardware as shown on the cover and the rear living terrace as on the preceding page are refined details approved by today's buyers. Cubage is 30,000 ft. House is insulated with mineral wool; has winter air conditioning.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 174

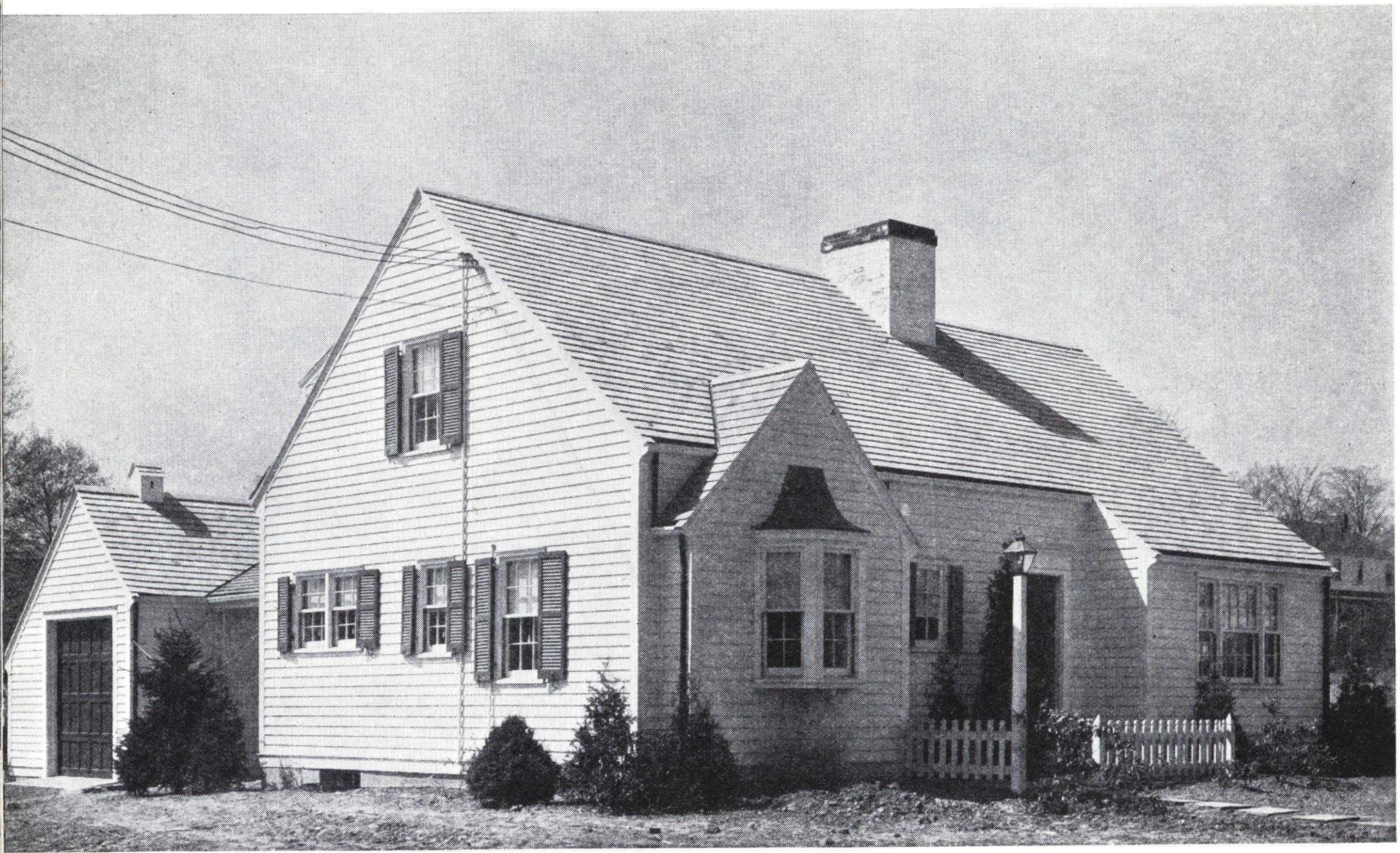


Invites Attention

FROM THE living room, three French doors open out into this charming outdoor spot which has been planned with as much skill and attention as the inside of this Connecticut home designed by Architect Chester A. Patterson and built by Peter A. Cameron.

GARDEN TERRACE OF SPECIAL CHARM

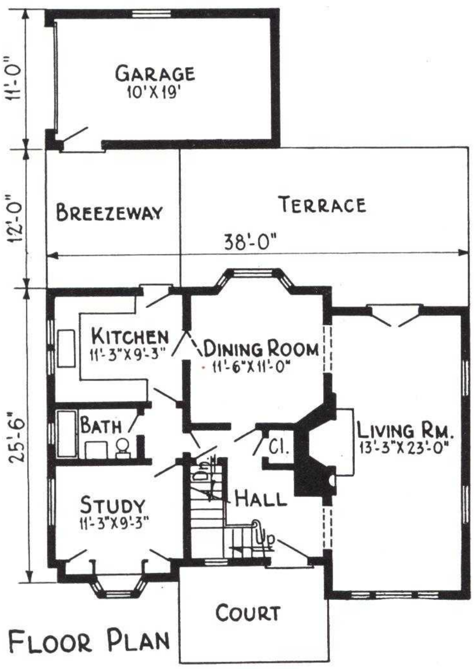
AT THE OPENING of what promises to be the best home building year in a decade, AMERICAN BUILDER presents many homes of striking beauty selected for the 1939 market. These houses are not the theoretical imaginings of some magazine staff artist, nor are they the visionary dreams of some draftsman drawing pictures for an architectural competition. These are practical, salable homes designed by practical practising architects and built by builders for real-life customers. AMERICAN BUILDER believes that the successful homes of today point the way to the successful homes of tomorrow and believes that this present selection is worthy of careful study in laying building plans for an active year in 1939.



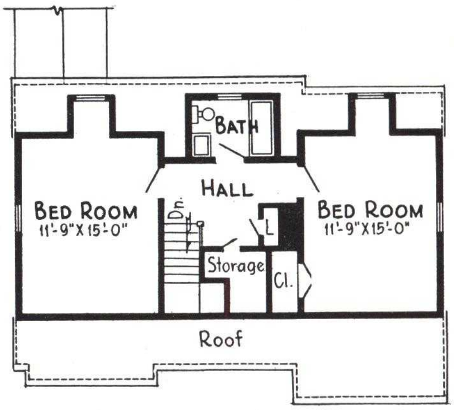
THIS IS a popular and proven type of Colonial home in Hartford, Conn., one of the interesting features of which is the "breezeway" connecting kitchen with garage. With a cubage of 24,500, this little house provides a lot of living comfort. It has a pecky cypress recreation room in basement, brass pipe throughout, Schlage hardware, Briggs Beautyware fixtures, winter air conditioning.

HARTFORD HOME WITH BREEZEWAY

Fred Kenyon, Builder
Norris F. Prentice, Architect



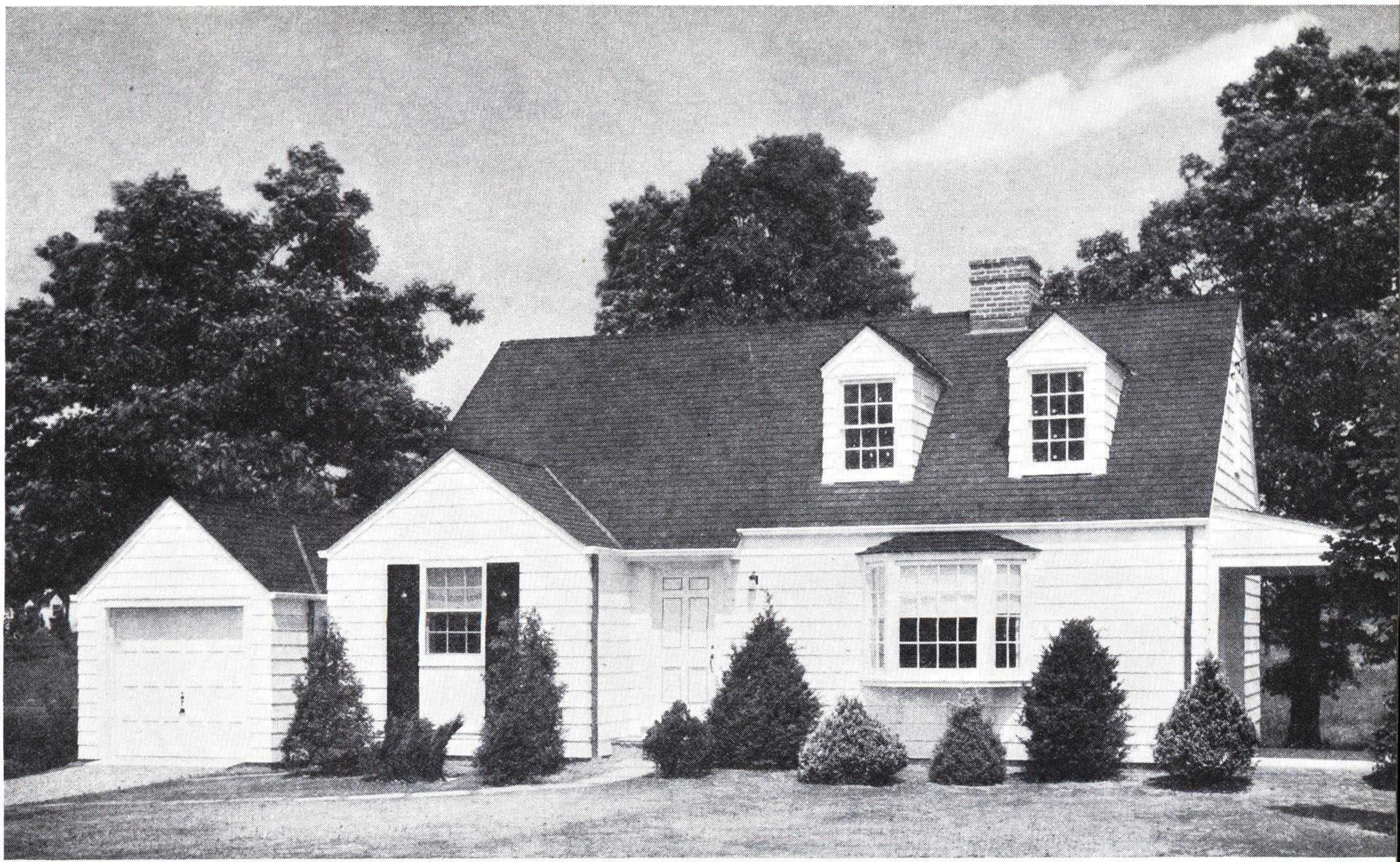
FIRST FLOOR PLAN



SECOND FLOOR PLAN

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 175

PLAN AFFORDS good circulation of rooms and all have cross ventilation. Front door is accessible from kitchen without person passing through other rooms. The study also serves as guest room.

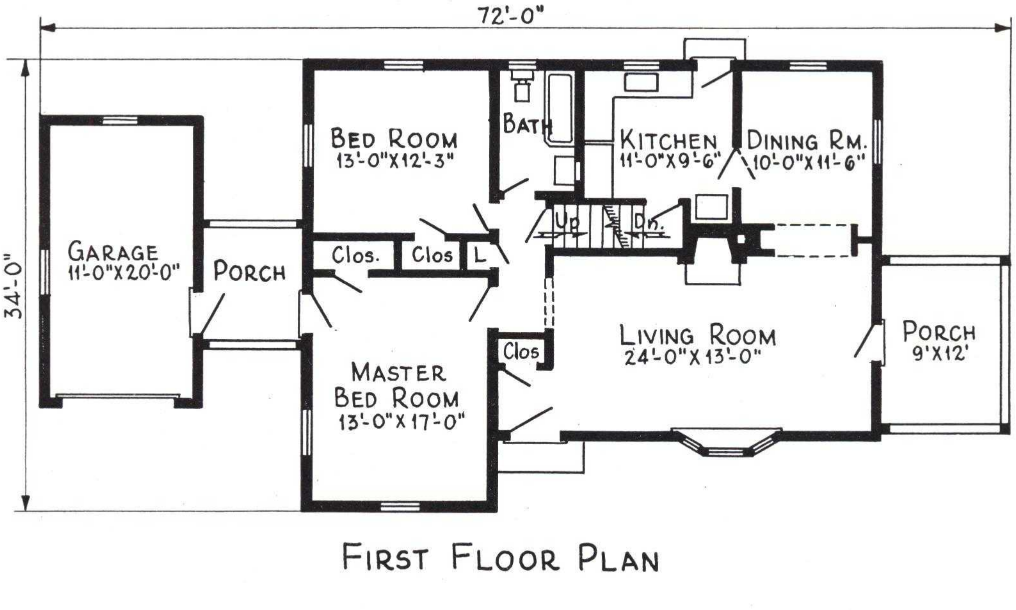


FIVE ROOMS, bath, garage and porch are provided by Homecraft Associates of White Plains, N. Y., in this attractive small "picture home." Two additional rooms can be added at any time in the attic space. The floor plan is compact and livable, with a large living room dominated by the bay window. It is fully insulated with mineral wool and heated by an oil-fired steam boiler.

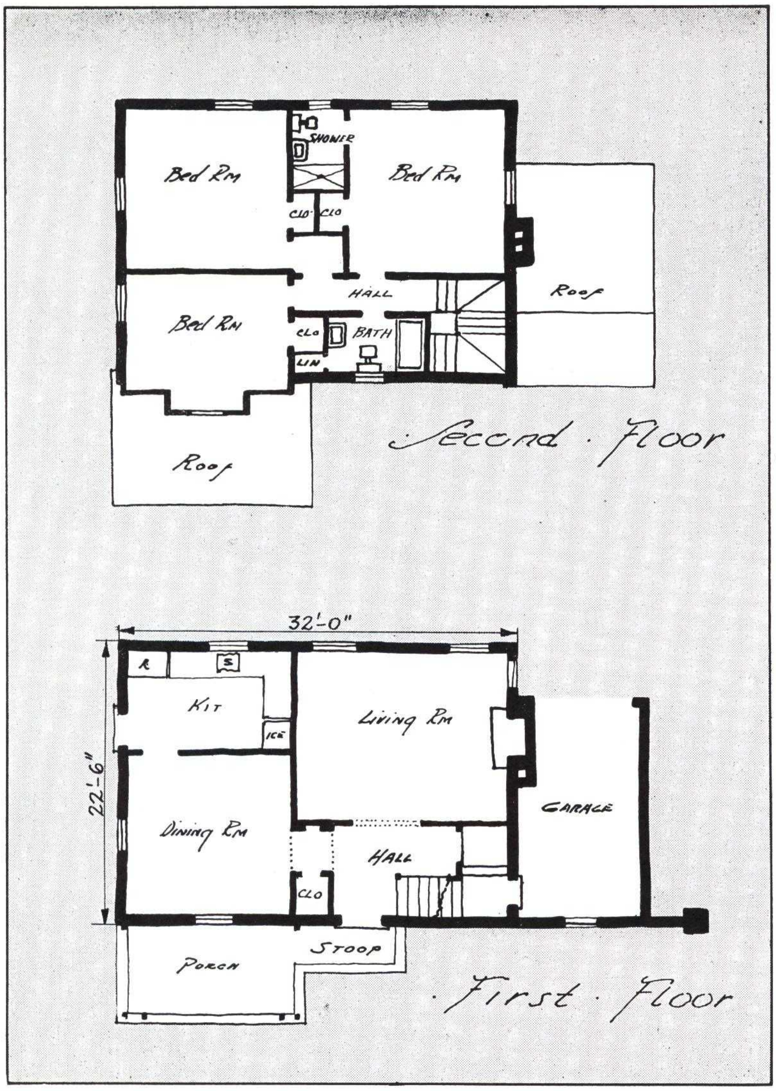
"PICTURE HOME" 5 ROOMS AND BATH; ATTACHED GARAGE

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 175

A VERY livable and practical arrangement of rooms. Hall, stairs and fireplace are economically grouped, and the bathroom is in a convenient location accessible from both bedrooms and the living room. The attached garage and open porch are good features.



First Floor Plan



WELL ARRANGED floor plan with 6 rooms, 2 baths, southern exposure in living room and efficient stair hall.

STONE AND OLD BRICK IN VIRGINIA HOME

MATT. P. WILL of Richmond, Va., built this Southern home in Glenburnie subdivision at Richmond, Va. It was designed by Architect A. L. Kidwell. In describing the house Matt, Will says it is "complete in every detail for comfortable living." It has ample closets, southern exposure in the living room, 2 good baths, well placed attached garage. The exterior uses a combination of old brick, vari-colored stone, wide beaded joint siding, an attractive slate roof.

INCLUDED IN THE EQUIPMENT are an electric range and refrigerator, shades, screens, wide oak floors, complete interior decoration including wallpaper. With overall dimensions of 32' x 22½' and a cubage of 26,300, it provides a most livable, comfortable home.

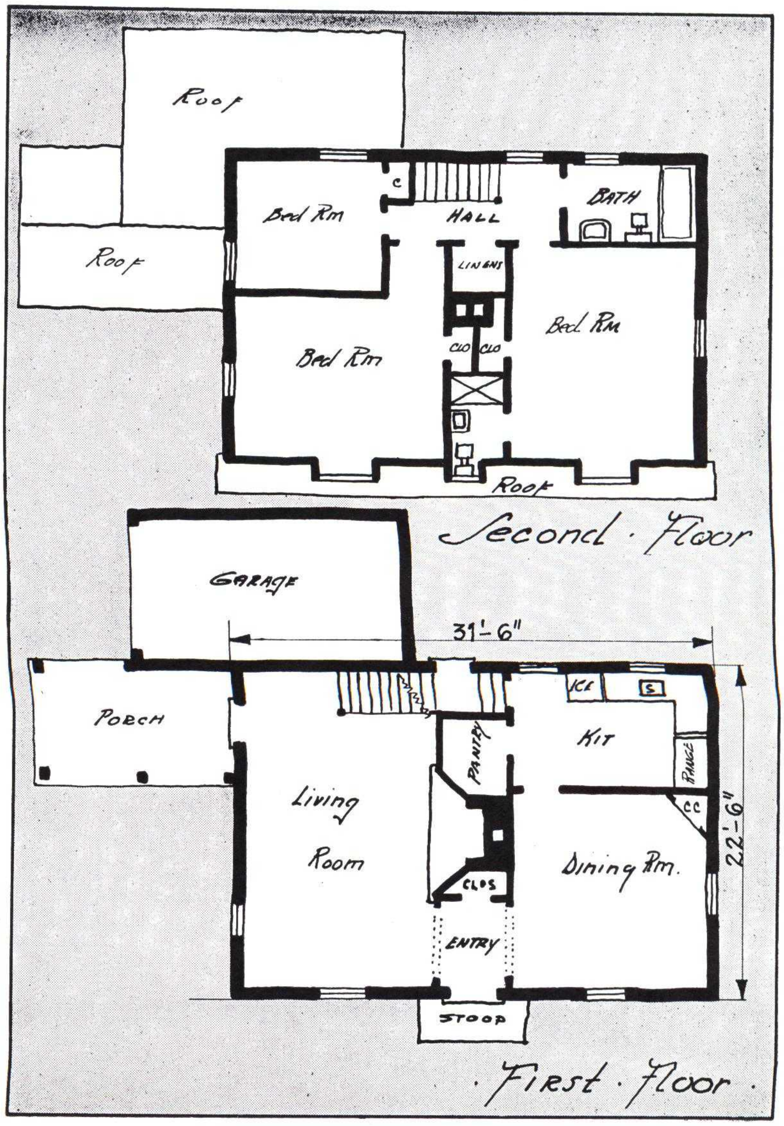
IN GOOD COLONIAL STYLE, the large chimney and fireplace is the center of attraction in this fine Richmond home built by Matt. P. Will in Glenburnie subdivision.

AMERICAN BUILDER
TruCost FIGURES
FOR THESE HOUSES
ON PAGE
175

A GEM FROM THE OLD SOUTH

THIS CHARMING SOUTHERN HOME fits into its environment in Richmond, Va., in a way that shows it was designed and built by men who know their business. Old Virginia brick is used for the exterior. The roof shingles are of asbestos and cement simulating old, weather-worn wood shingles. It was built by Matt. P. Will, who describes himself as "master builder" and has well earned that reputation. The architect was A. L. Kidwell.

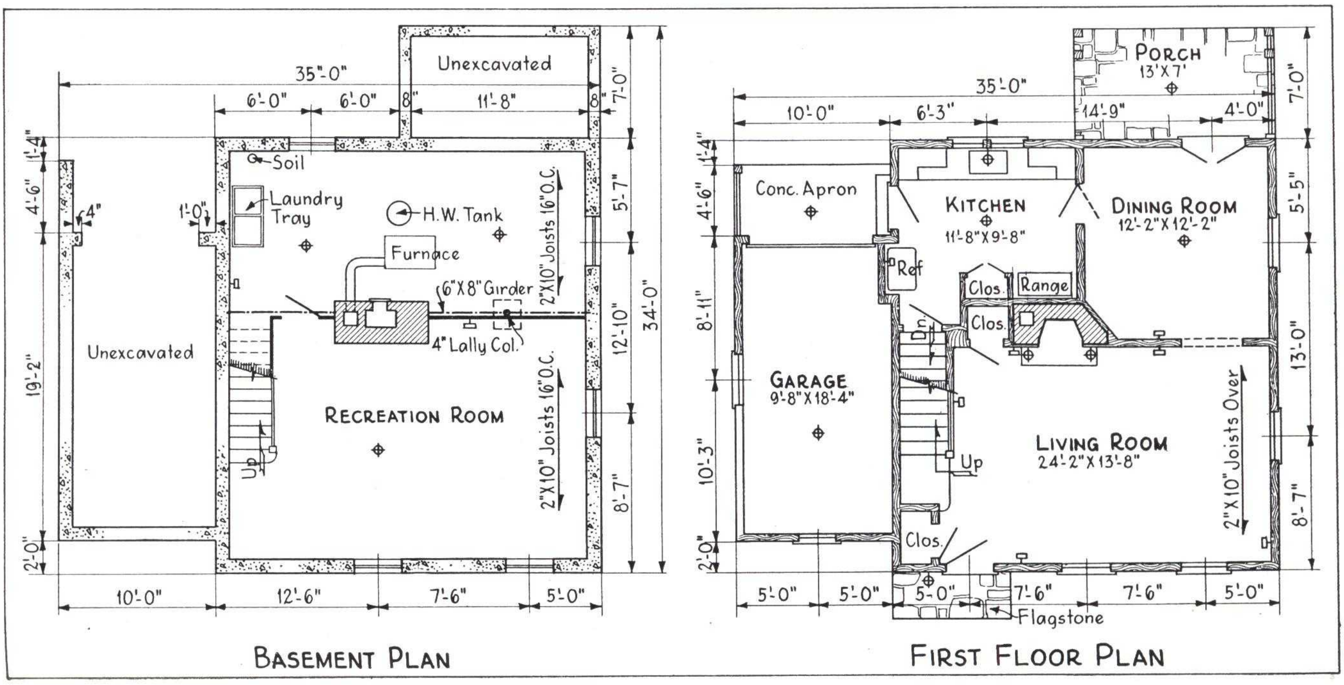
HEATING consists of a water heater system with oil burner, and equipment includes an electric range and electric refrigerator. The floor plan is unusually compact and livable, with large well lighted rooms, good closets, no waste space. The open porch and attached garage are desirable features. Basement dimensions are 31½' x 22½', and the cubage 23,000 cu. ft.

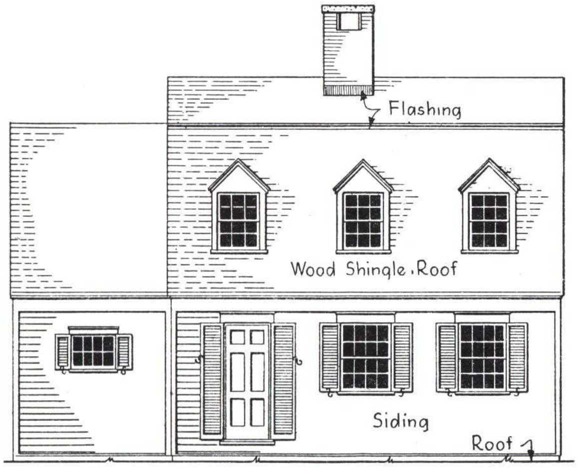


COMPACT, livable, economical are the best words to describe this little Dutch Colonial built in Cheelcroft subdivision at Ho-Ho-Kus, N. J.

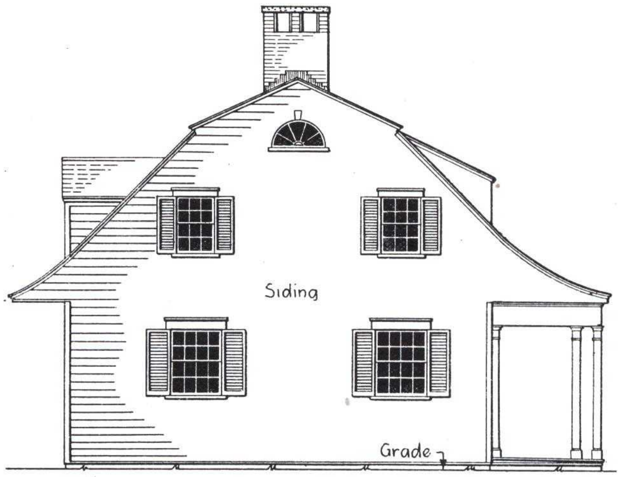
6-ROOM DUTCH COLONIAL, 25x27 FT., ATTACHED GARAGE

J. Norman Hunter, Architect; Harold W. Cheel, Builder

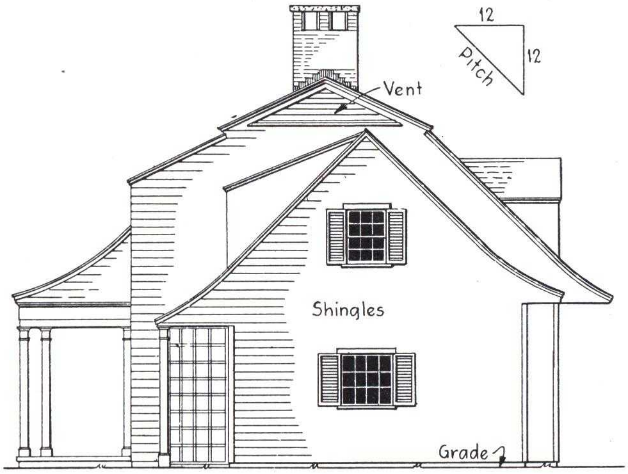




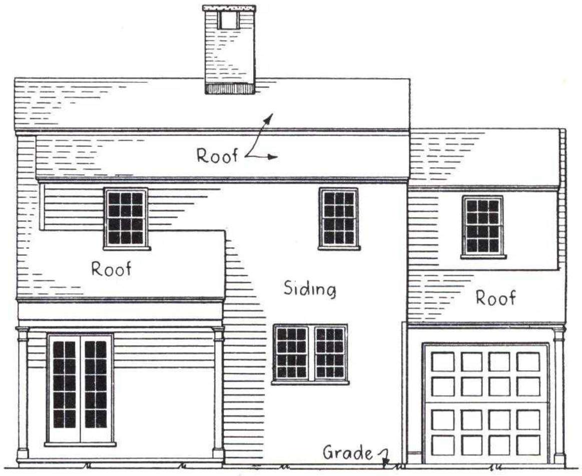
FRONT ELEVATION



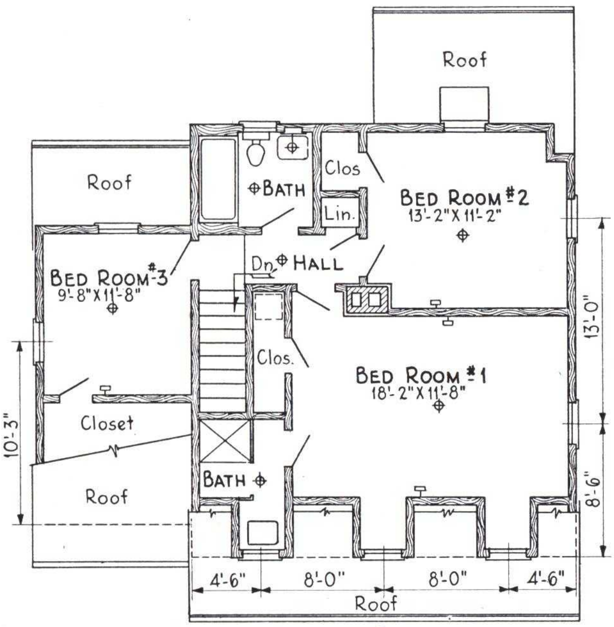
RIGHT SIDE ELEVATION



LEFT SIDE ELEVATION



REAR ELEVATION



SECOND FLOOR PLAN

FEATURES THAT SELL

ARCHITECT HUNTER and Builder Cheel have here produced a house with practical built-in sales appeal. The main part of house is only 25′ x 27′, but by putting every inch of space to work and placing a small bedroom over the attached garage, it has been possible to make it a 6-room house with 2 baths, a fair-sized dining room and a living room 21′ 8″ x 13′ 8″. The house is of attractive Dutch Colonial design, with a trellised open porch at rear. Concrete apron of garage serves as porch.

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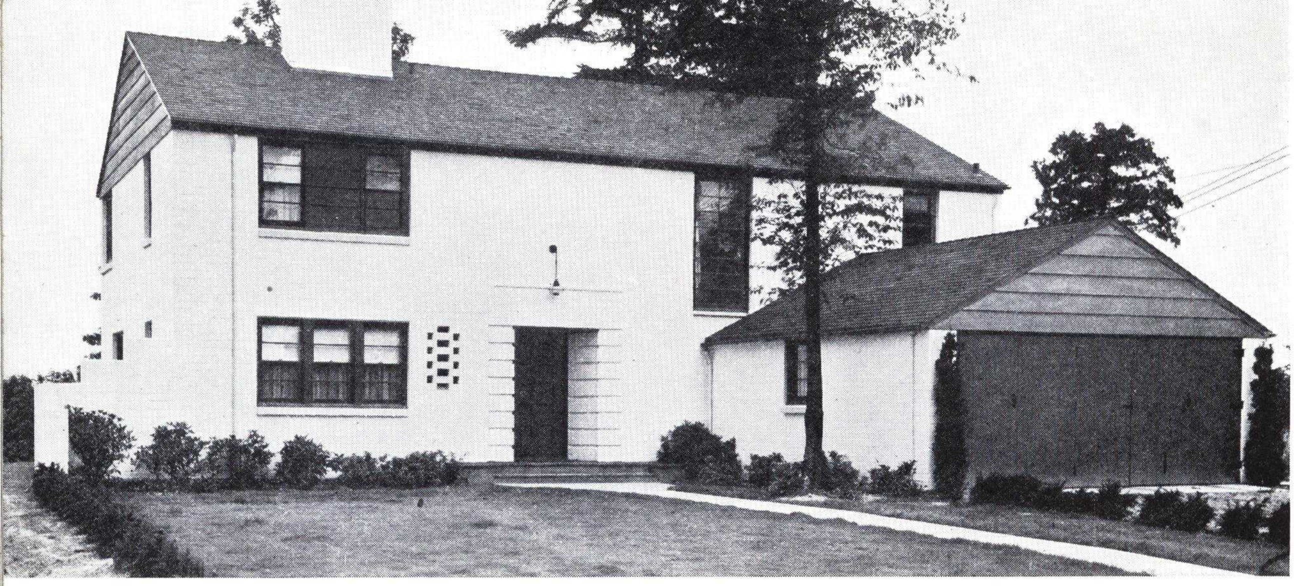

MONTEREY STYLE AT BLUE RIDGE, WASH.

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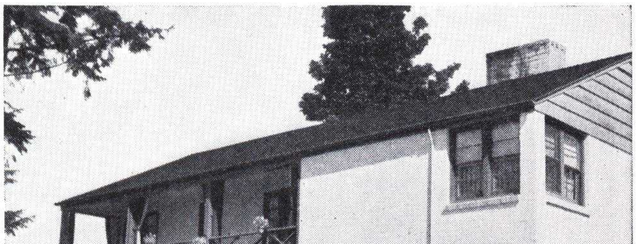
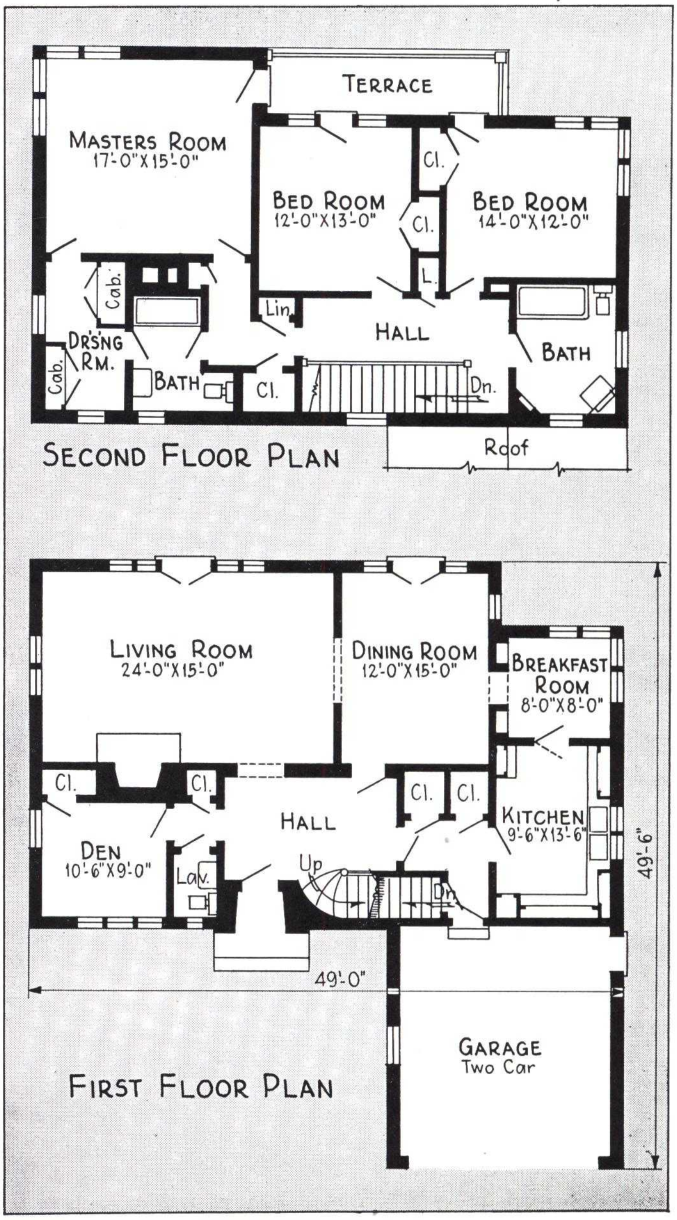
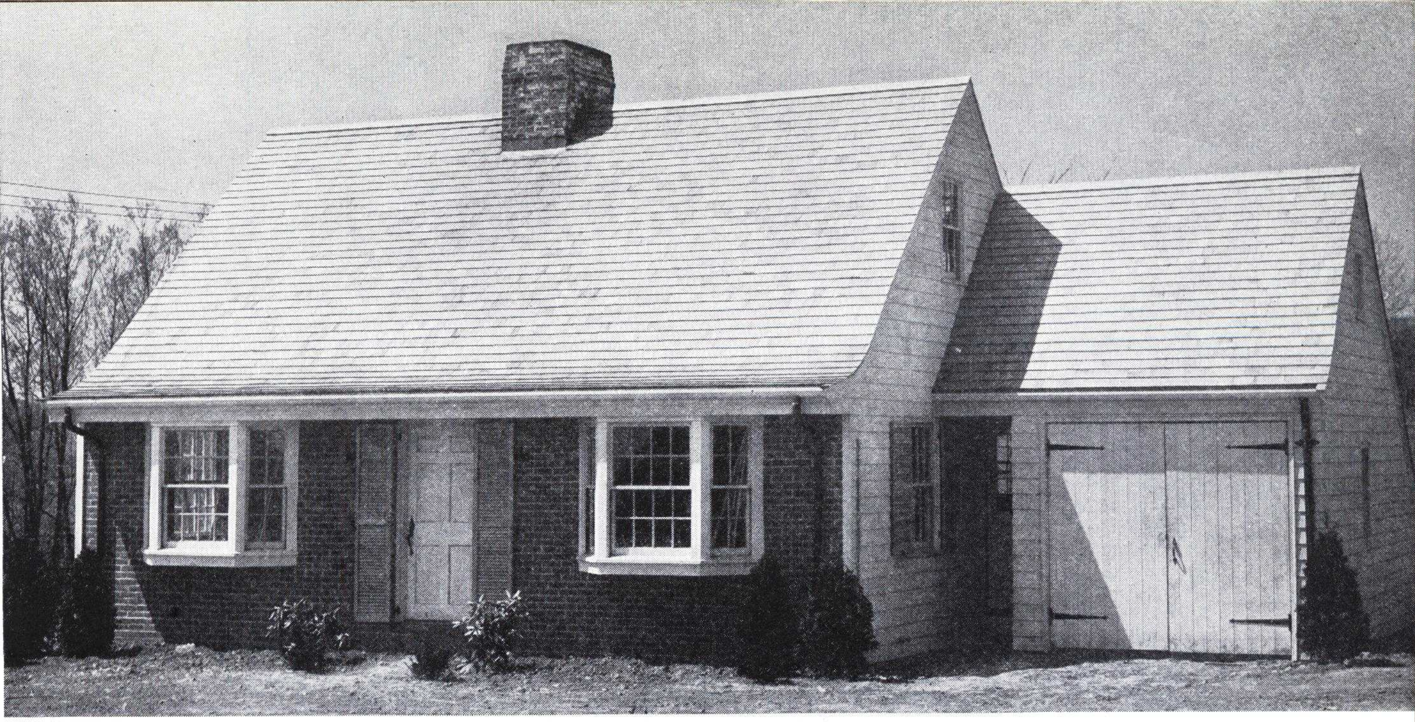
Built by Hugh Russell, Seattle, Wash.
W. E. McKinney, Seattle, Architect

THIS 8-room Monterey style house, designed by W. E. McKinney, Seattle, Wash., architect, is finished with hollow tile, brick facing and lapped cedar siding trim. Den, entrance hall and kitchen are placed at the front of the house, and living room, dining room and breakfast room at the rear, which overlooks the wide expanse of Puget Sound.

The entire left side of the upstairs is given over to the owner's quarters, which include bedroom, dressing room and bathroom. An additional bathroom is provided for the other two bedrooms. A long recreation room, laundry, heater room and storage space are located in the basement. Other features are Montag air conditioning plant; National Steel Construction Co. storage water heater; Standard Sanitary plumbing fixtures; Armco iron gutters and downspouts; Bondex waterproofing cement paint; Masonite stair treads and panel work; Reardon's washable calsomine; Imperial wallpapers.


REAR of this Blue Ridge house built by Hugh Russell overlooks Puget Sound; living and dining rooms open onto a paved terrace with protecting awning; covered balcony connects the bedrooms.





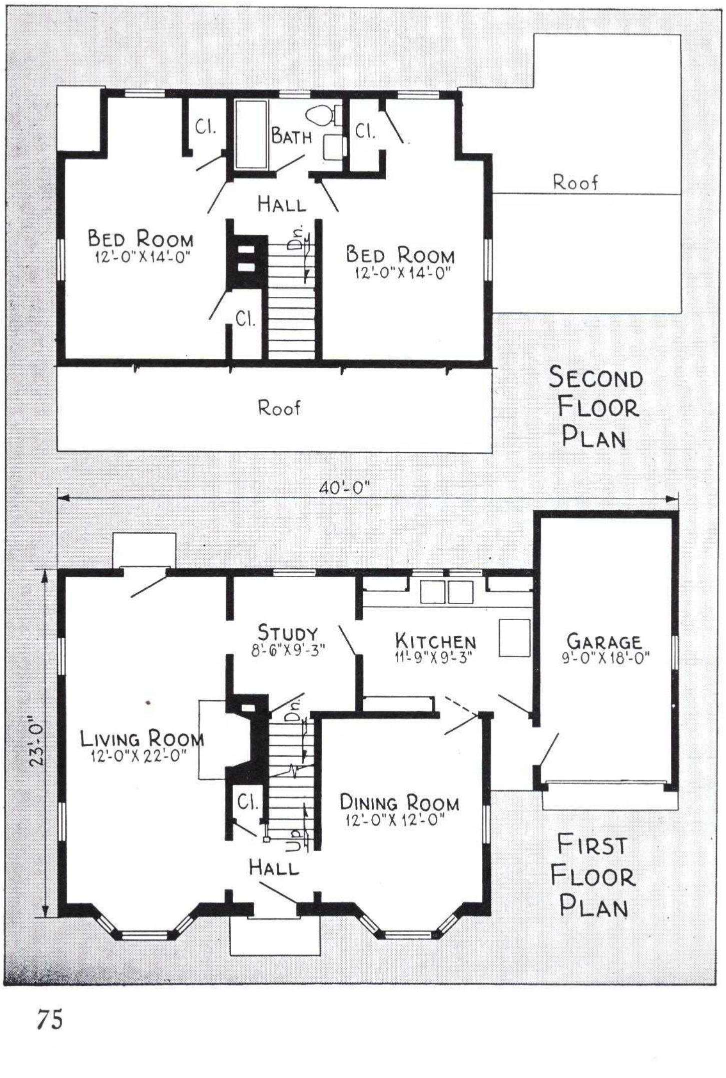
6-ROOM, ATTRACTIVELY STYLED, BRICK FRONT COLONIAL—ONLY 17,000 CU. FT.

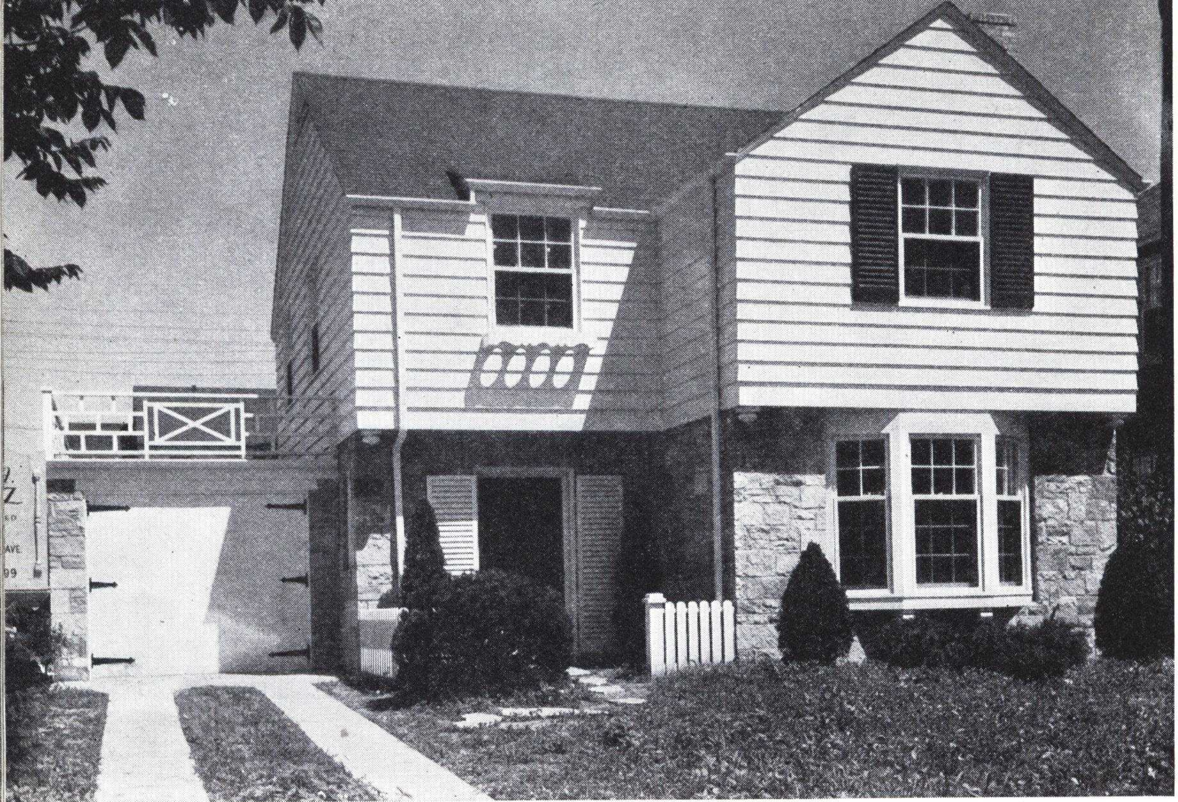
Wallace B. Goodwin Co., Builder
Norris F. Prentice, Architect

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 175

WITH A FLOOR AREA of approximately 30′ x 23′, Architect Prentice and Builder Goodwin have here secured a good-looking little Hartford, Conn., house with a cubage of slightly over 17,000 cu. ft. The sweep of the roof makes the house hug the ground and fit its site in a pleasant way. The 2 bay windows give a nice decorative effect to the front and increase the size and pleasantness of the rooms. The stairs, front-hall closet and fireplace are compactly handled, and the study between living room and kitchen is a very desirable feature.

BUILDER GOODWIN uses Morgan Colonial trim, metal kitchen cabinets; Balsam Wool blanket-type insulation; Richvar radiators, with a warm water system operated by an oil burner. The manner in which the garage is attached to the house, leaving space for the kitchen door, is interesting.



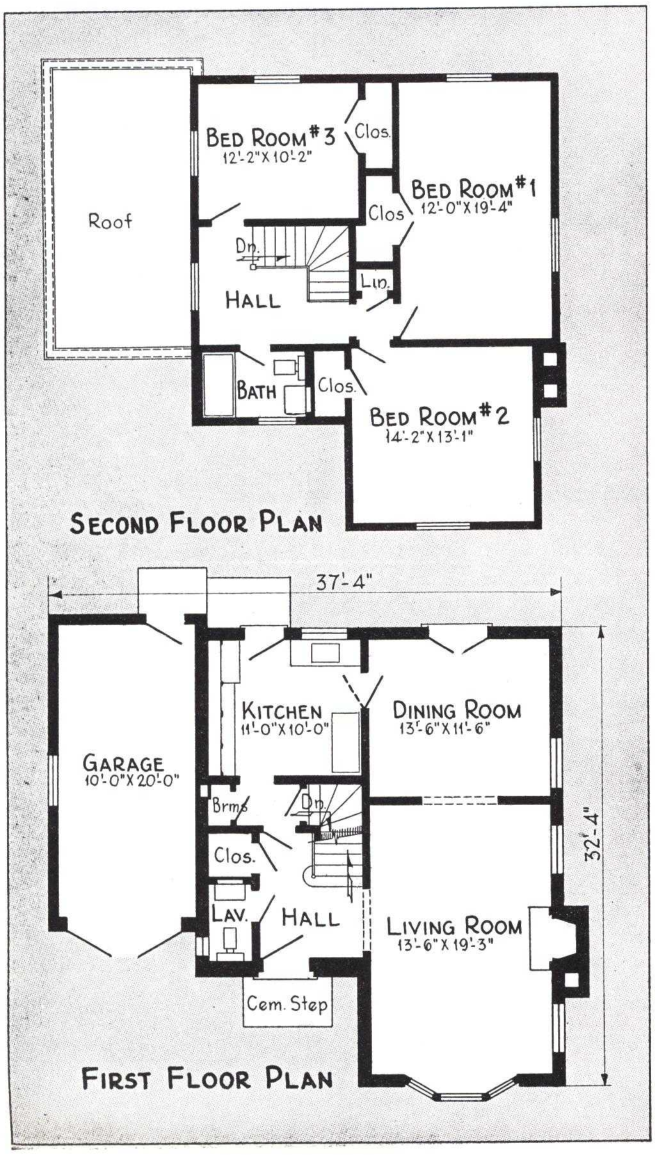


THE Blietz house shown at the left is styled after the Connecticut Colonial type of design having a veneer of Briar Hill sandstone on the first floor, with wide beveled siding painted white above. The white picket fence encloses a trim dooryard. Living room bay is nicely placed below the overhanging second floor. In plan, circulation through the entrance hall to the rear is good, with easy access to the basement.

TWO 6-ROOM COLONIAL HOMES IN EVANSTON, ILL.

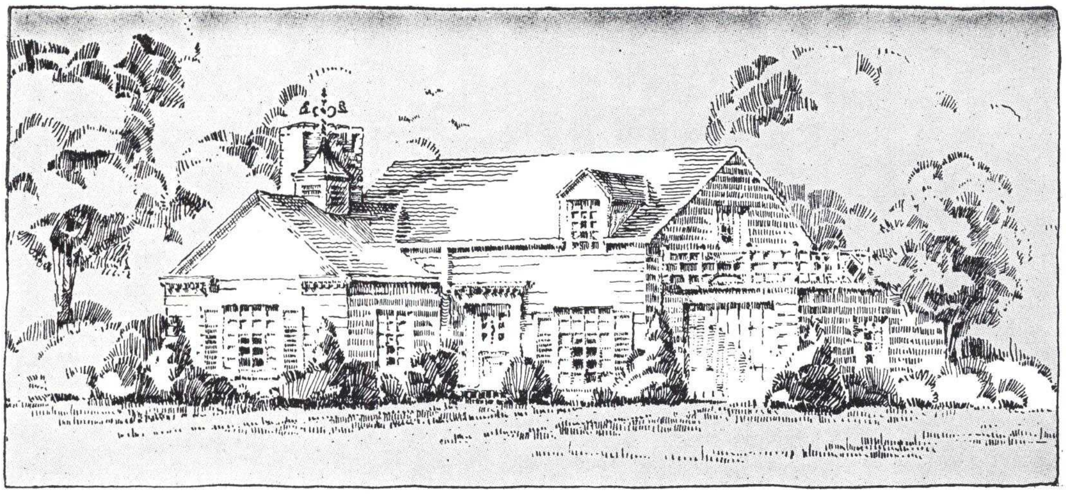
Irvin A. Blietz, Wilmette, Ill.

Designer and Builder

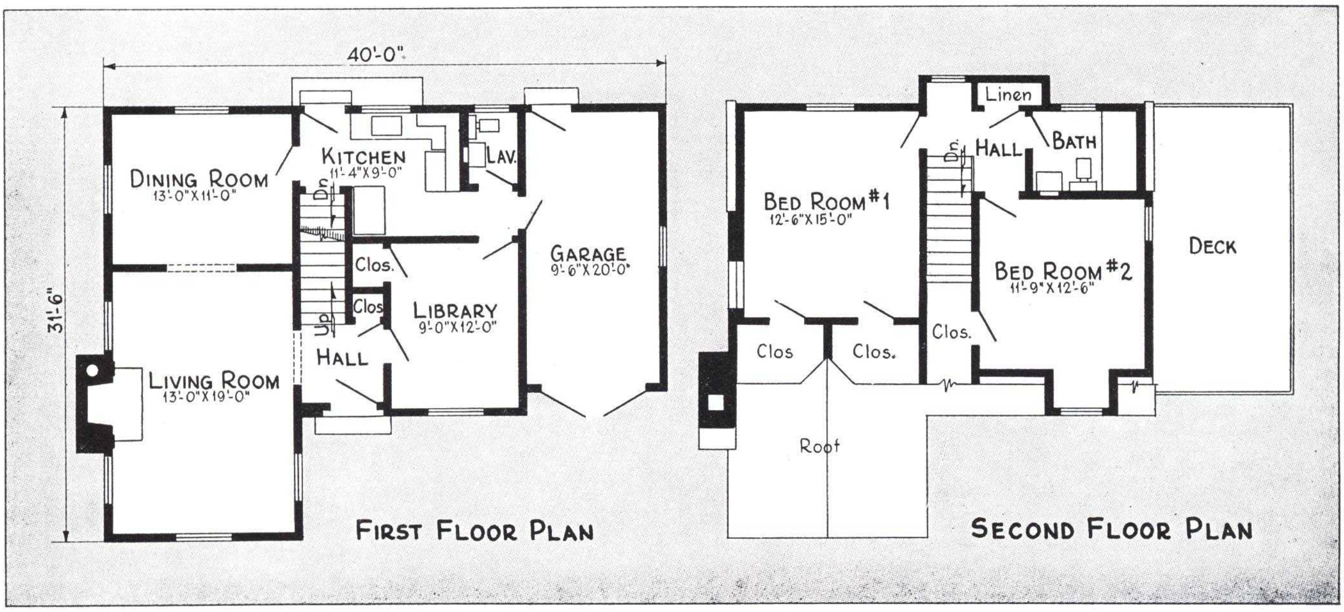


THE two distinctive Colonial designs on these pages are unusually attractive in exterior appearance and carefully planned in interior arrangement. Both have six rooms, attached garage and airing porch above. Rooms throughout are well proportioned and arranged for good ventilation. The living rooms feature natural wood-burning fireplaces with marble mantels. Kitchens are efficient, with double drainboard sinks, hose dish sprays, and abundant cabinet space. Both houses have ample closet space, there being six closets in one and seven in the other; all are papered to match the adjoining rooms. Floors and walls to a height of 3 feet 6 inches in the baths and higher over tubs are finished in colored tile. An extra toilet and lavatory are located on the first floor of each.

CONSTRUCTION features and equipment used in these two houses are as follows: Concrete foundation water-proofed with asphalt emulsion and protected with drain tile around footing; kiln-dried precision lumber used for framing; asphalt shingle roofs; all exterior openings weatherstripped and caulked; copper screens throughout; linoleum floors in kitchens; mirrored doors in baths; clothes chutes from first and second floors; gas-fired winter air conditioning systems; electric outlets and switches generously supplied in all main rooms.



THE weathervaned cupola on the living room wing of this Nantucket Colonial designed and built by Irvin A. Blietz in Evanston, Ill., gives an authentic air to its trim lines. The preliminary perspective sketch at the left indicates fine accuracy in planning and building. Although it has a snug appearance, room sizes are generous. A library off the entrance hall on the first floor can be used as a bedroom; there is easy access to lavatory.



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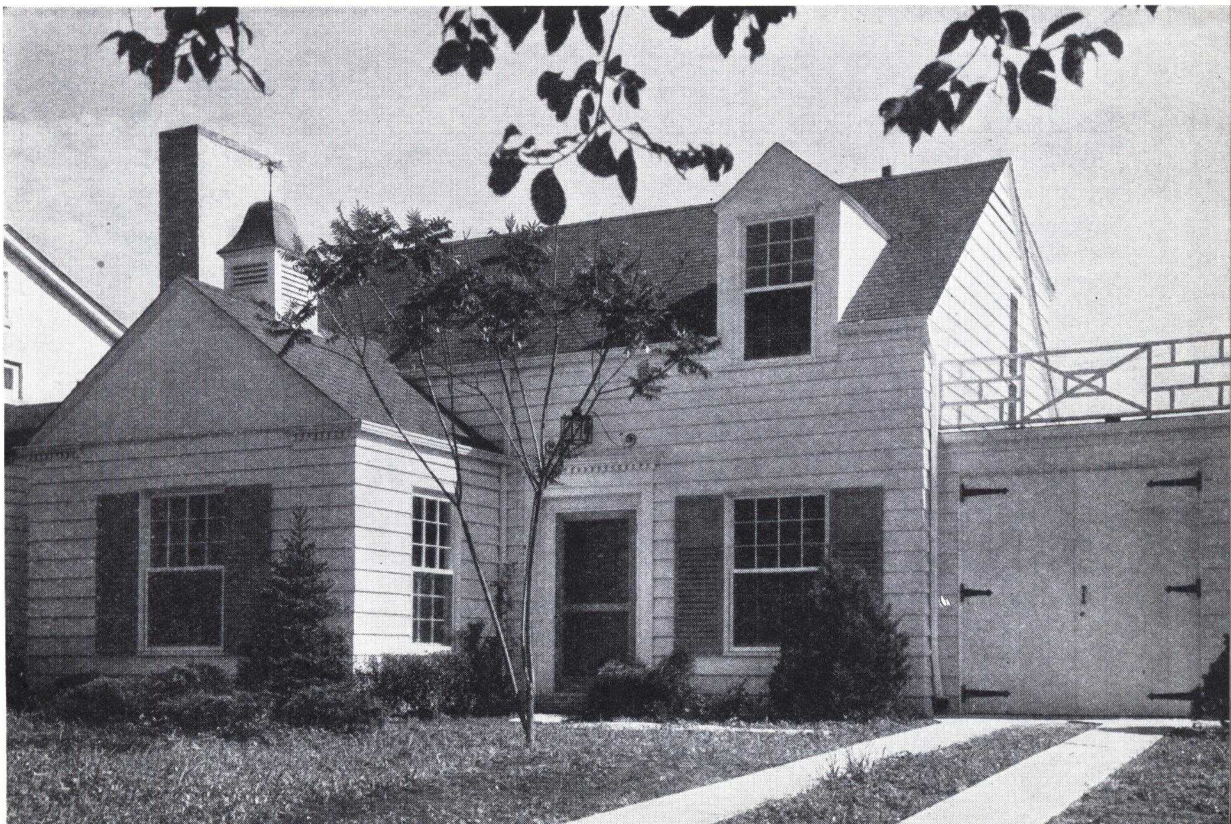

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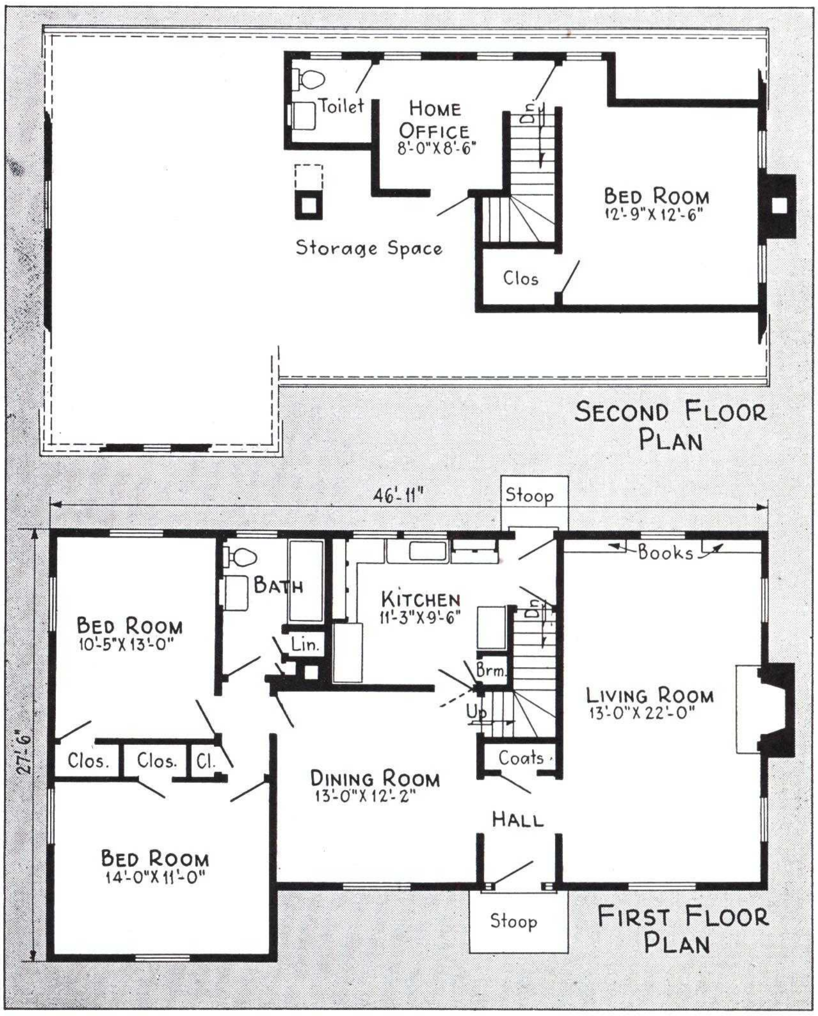
CORNER LOT COLONIAL FROM THE MIDWEST

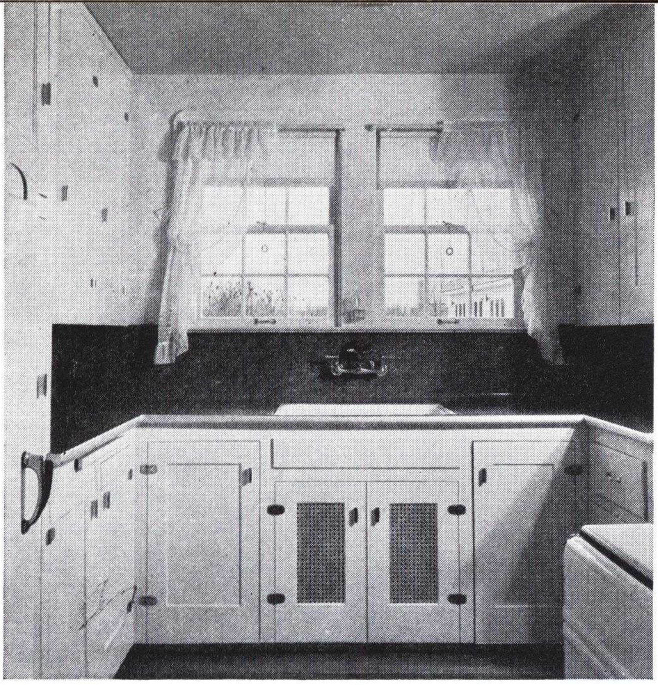
Designed and Built by McKay Construction Co., Cedar Rapids, Ia.

PLANNED to fit well on a corner site, this design offers two very attractive elevations facing the street. Living room fireplace chimney on one side balances the extending wing of the front bedroom on the other. Large divided sash in the living and dining room windows flank the front entrance. White siding and red cedar shingles with contrasting blinds are ideally suited to the low lines of the house. A neat cornice with wide facia and dentil course gives an added note of distinction.

GENEROUS room sizes are found throughout the plan which has a practical first floor layout of five rooms and good provision for storage. Living room is located for plenty of light across one end of house. Hall areas are kept to a minimum, the dining room serving as a traffic avenue to kitchen, bedrooms and second floor where a home office, bedroom and lavatory are finished; balance of second floor is storage area but could be used for another bedroom.

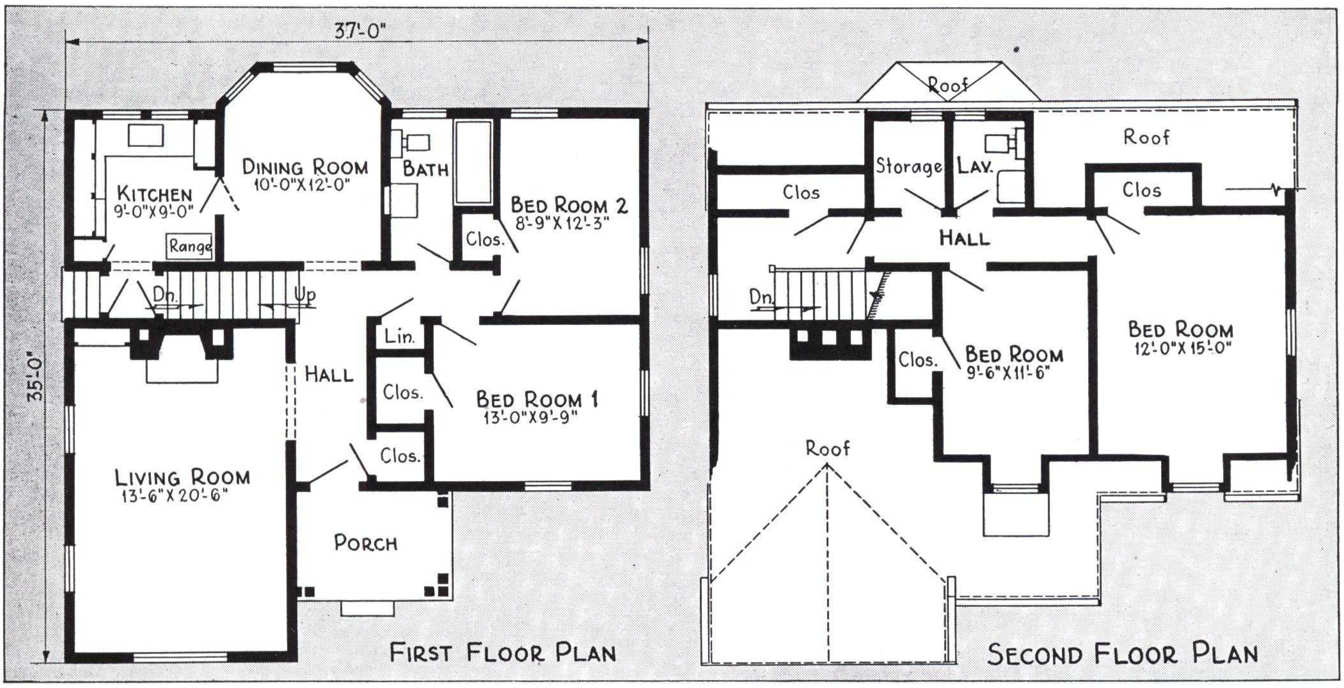
MATERIALS used include Elaterite waterproofing on foundation walls, Northwestern States portland cement, Celotex Mineral wool batts all over, U.S.G. Rocklath for plaster base, Benj. Moore interior paint, National Lead outside paint, Sisalkraft paper on side walls, Bruce hardwood oak flooring, Torrid-Zone furnace, Kohler plumbing fixtures, Overhead garage doors, Corbin hardware.





4 BEDROOMS; GOOD PLAN

SOMEWHAT similar to the one opposite, this 7-room Colonial home was built in Cleveland, Ohio, by F. J. Welz and designed by Architect E. Milton MacMillin. It presents another version of a plan which is very popular today—five rooms on first floor and space for two additional rooms and bath above, either completed or to be finished later. Center entrance hall of this well planned house connects with stairs to second floor and all main rooms except compact kitchen which is pictured at right. Construction features include 12" brick and tile foundation walls, yellow pine frame, 10" red cedar siding, variegated asphalt shingle roof, white pine interior trim, select white oak floors throughout, plaster on Rocklath, 4" mineral wool in roof, 24" Moncrief hot-air furnace, Standard plumbing fixtures, copper pipes, rubber floor and linoleum wainscot in bath, rubber-covered counters in kitchen.



First Floor Plan

Second Floor Plan

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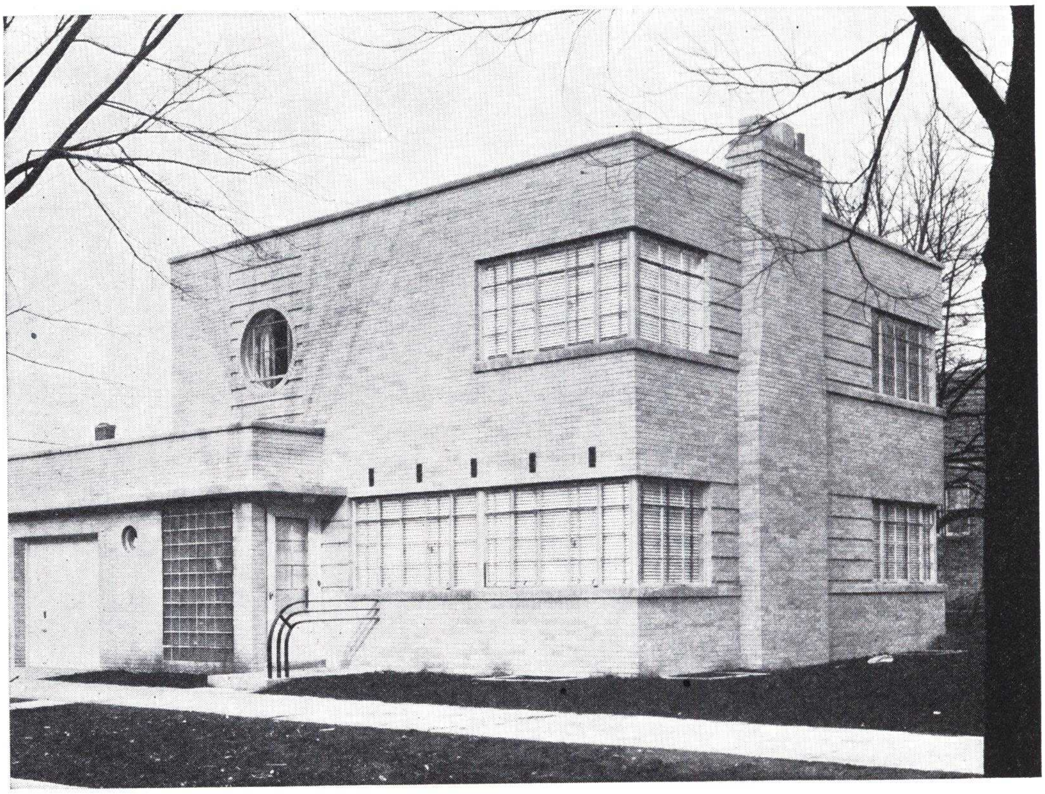
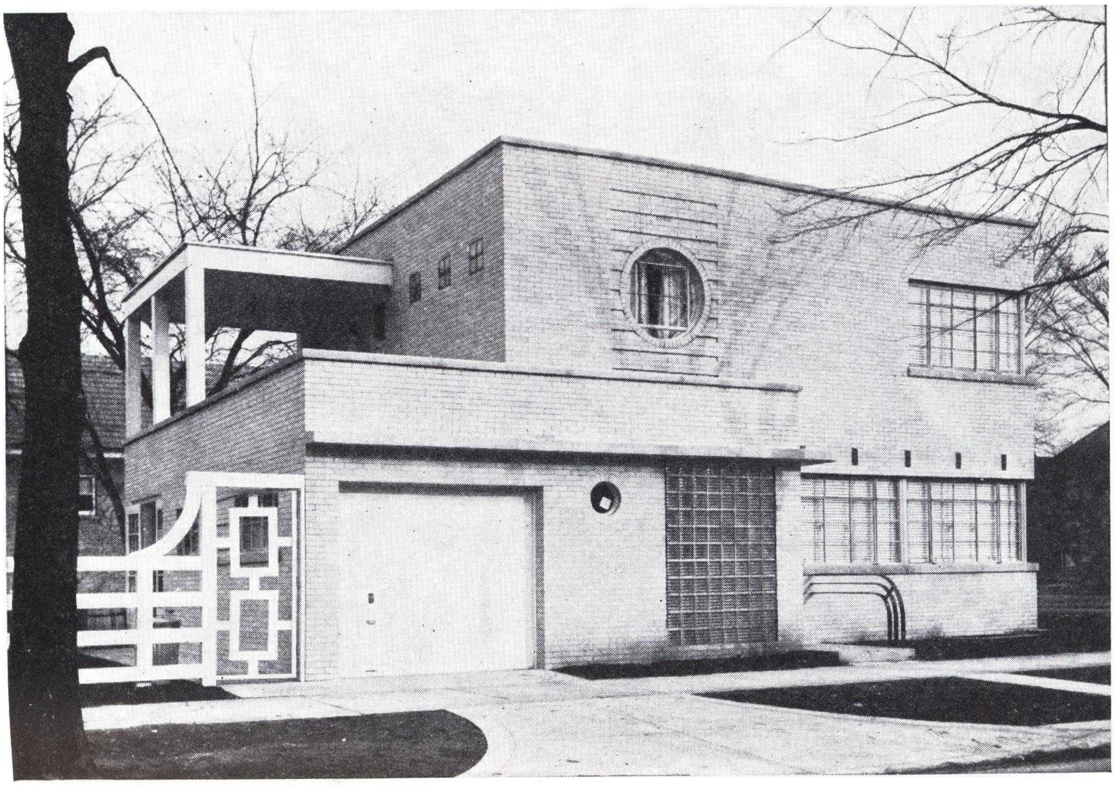
MODERN CHICAGO HOME FEATURES EXCELLENT DESIGN

Designed and Built by Rice and Rice of Chicago

A GOOD deal of contemporary design leaves much to be desired in styling and interior efficiency; this example, however, is excellent in both these considerations. The large expanse of corner windows breaks up the exterior in an interesting pattern; other windows and glass block areas add to the clean, modern effect which is furthered by the decorative horizontal courses worked into the buff face brick. The plan having 6 rooms, built-in garage and 2½ baths as shown on opposite page is arranged for economy, convenience and comfortable living.

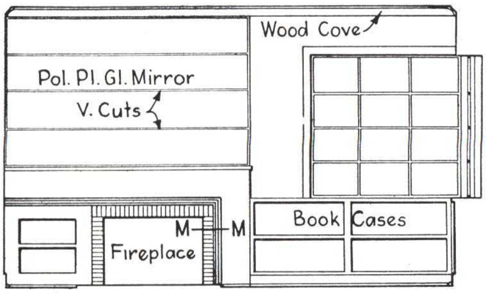


THE soft shades of brick coloring add much of the appeal of this house when it is viewed as at the right; the dark spots over the long Fenestra sash window are red tile inserts. The area of P-C glass block lights the vestibule. Other items of construction are J-M built-up asphalt roof, 3-coat plaster on Rocklath over furring, Balsam-Wool over ceilings, oak floors except Armstrong linoleum in kitchen and baths, A.G.P. gas-fired winter conditioning, Standard plumbing fixtures, Midwest chimes and kitchen ventilating fan, and Lightolier lighting fixtures.

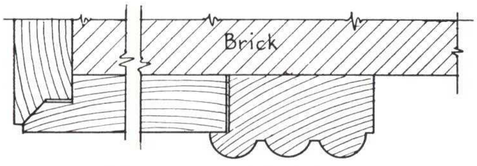


AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 175

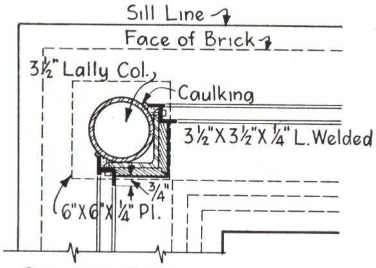
THE garage is nicely designed as a part of the house itself. A rear entrance porch and enclosed solarium located behind it and the deck above, partly covered and overlooking the rear yard, provide spots for summer relaxation.



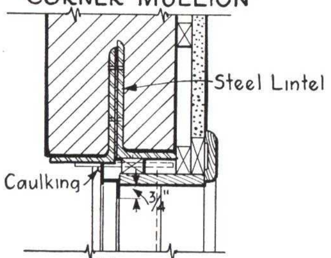
FIREPLACE AND BOOKCASE DETAILS



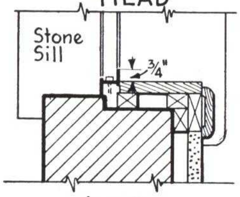
DETAIL AT M-M



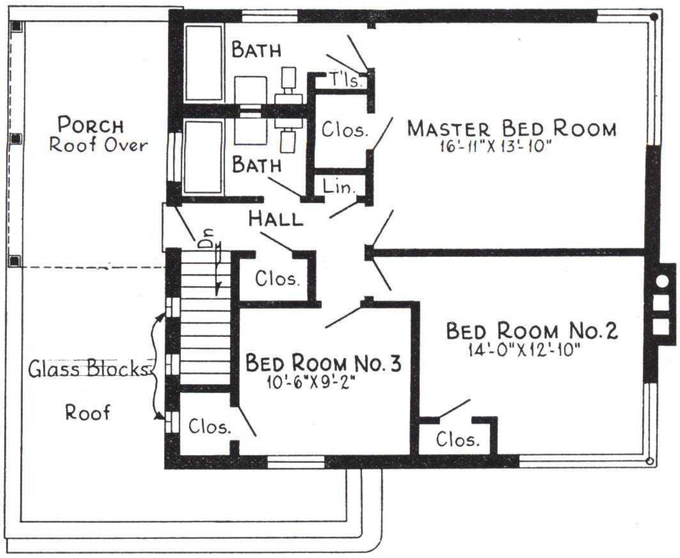
CORNER MULLION



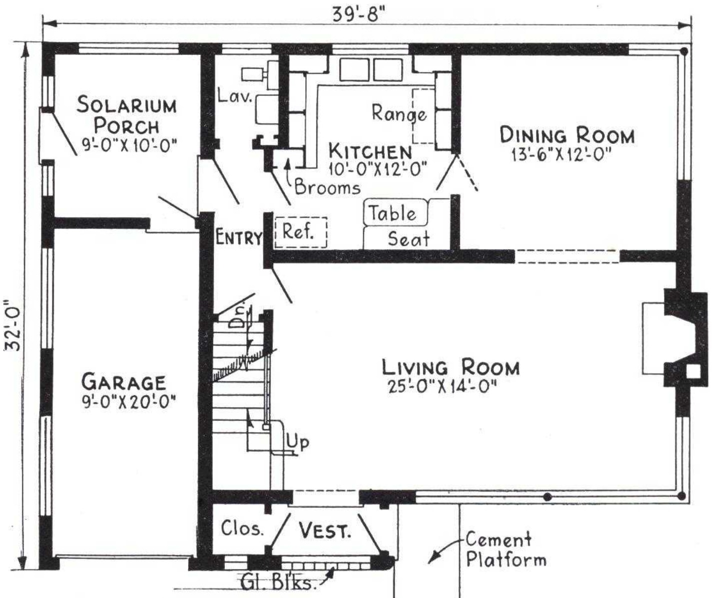
HEAD



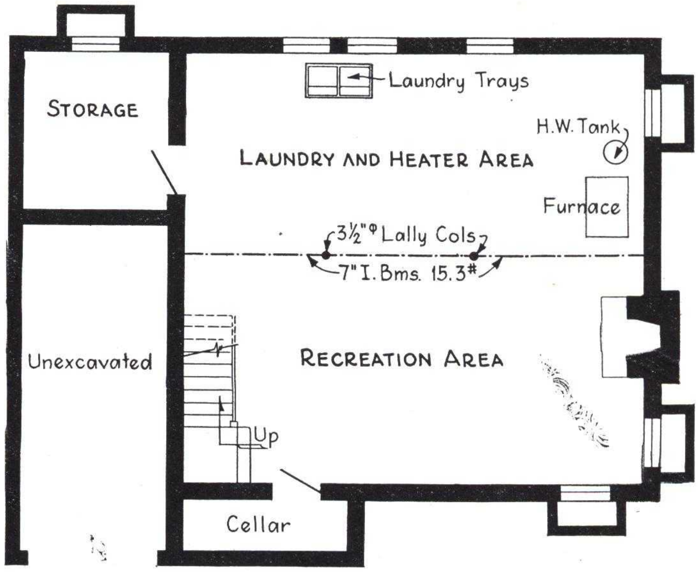
JAMB



SECOND FLOOR PLAN



FIRST FLOOR PLAN



BASEMENT PLAN

PLANS AND DETAILS of this Rice and Rice modern home in Chicago show numerous planning and construction highlights. The basement recreation area has a wood-burning fireplace; service equipment is grouped on the other side. Living room is flooded with light from the large corner window, a detail of which is shown. Fireplace wall is also detailed to indicate modern treatment of V-cut, flesh tinted mantel mirror and the adjoining cases; note simple trim and moulds. Economy is found in hall sizes, bath and plumbing placement, and efficient space use.

7-ROOM "ORCHARD HOUSE" BEARS MISSISSIPPI HONORS

BESIDES being well planned and built, this home in Jackson, Miss., bears the added distinction of being the first in its state and among the first in the country to be granted a 90 per cent FHA insured mortgage. Architect-Owner Henry G. Markel decided to built his new home as a demonstration house to stimulate the erection of better homes.

The dwelling, named "Orchard House" because of its site location in a pecan orchard, utilizes the greatest proportion of usuable floor area in relation to the gross area. In plan, conservative modern design, and use of materials, the architect-owner has kept in mind the four essentials—durability, livability, functional efficiency, and architectural attractiveness.

This 7-room house has a semi-detached garage connected to the main building by an attractive arcade used as a service area and laundry. The living room has corner windows and a flower shelf with magazine racks under it. A cast stone fireplace is surrounded by a wall finished in Flexwood and mirror directly over the mantel, as seen below. The dining room and kitchen form a single, compact unit. Bedrooms are planned with particular reference to placing of furniture, natural lighting and ventilation, and are provided with roomy closets.

Construction and equipment features include: Concrete footings; brick veneer over Vapor-seal covered framing; No. 1 common yellow pine sills and joists creasoted against termites; cypress sills and sash; living room and den floors Bruce block floors No. 1 clear red oak; Sealex linoleum in kitchen; Ludowici-Celadon interlocking shingle tile; Standard plumbing fixtures; gas-fired winter air conditioning; Weis shower stall; Fenestra steel sash; Acme Metal kitchen cabinets; plastering on perforated Rocklath.

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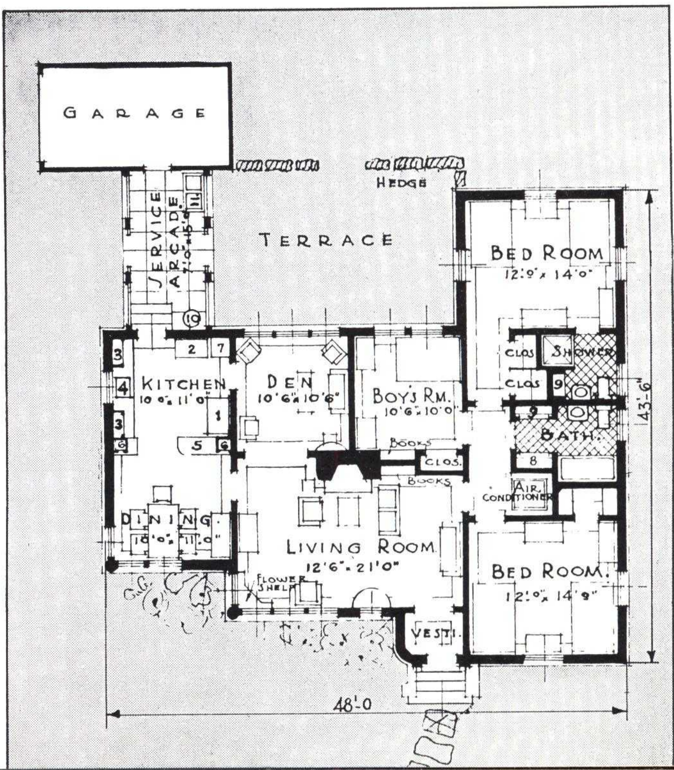
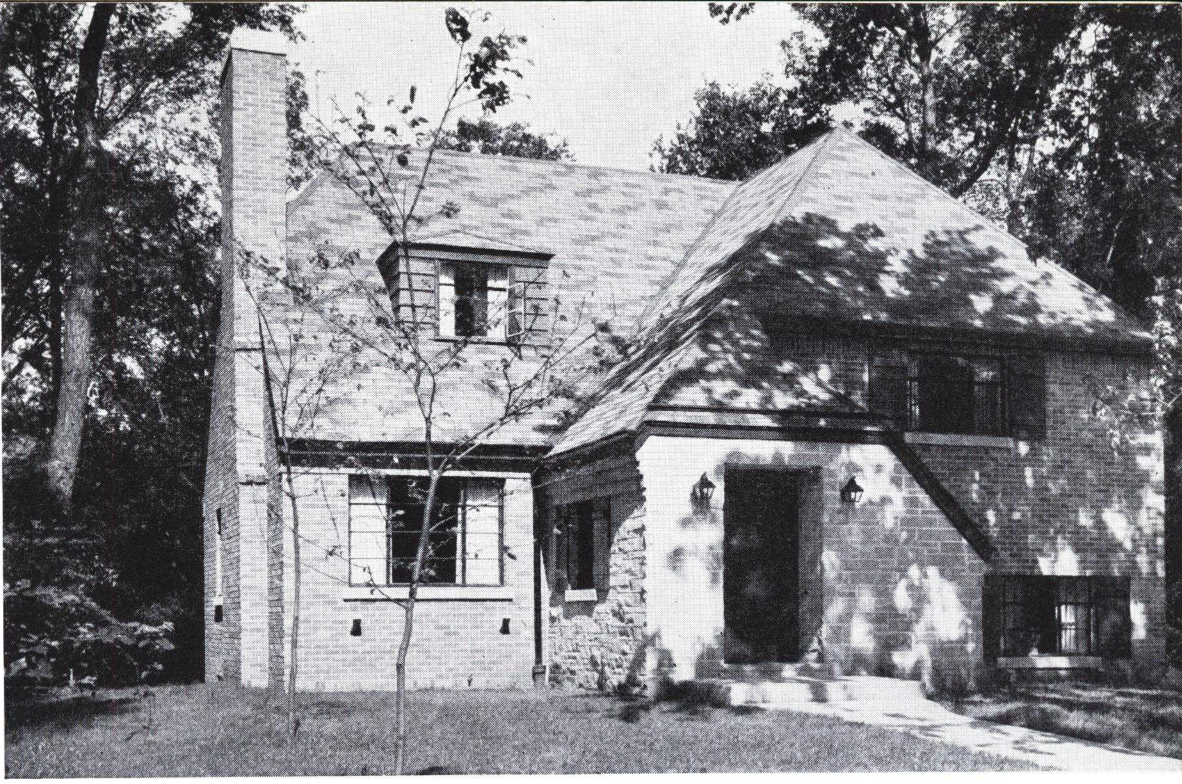
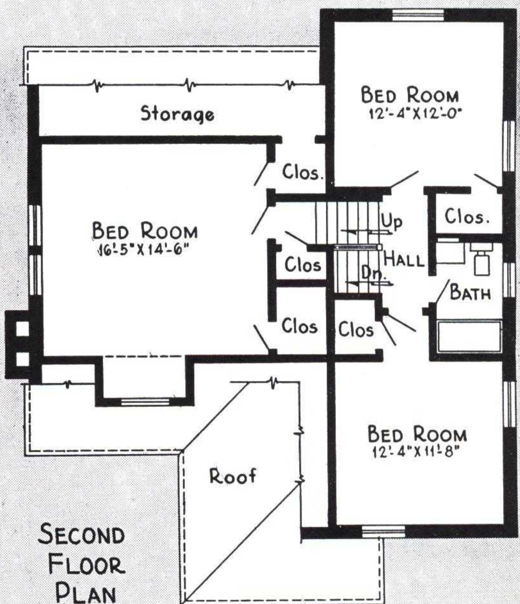


THE English type exterior of this 5-level design as built in Park Ridge, Ill., is done in hard burned clinker brick with stone ashlar entrance and trim. Roof is Bird's Weathertex asphalt shingles. Precision kiln-dried lumber, metal-lated rock lath plaster base and Balsam-Wool insulation were used. Equipment included U. S. Radiator one-pipe, forced-circulation hot water system with recessed convector type radiators, Weil-McLain plumbing fixtures, Schlage hardware, St. Charles metal cases and Congoleum linoleum floor and walls in kitchen.



5-LEVEL HOUSE IN ILLINOIS CONTAINS 8 ROOMS, 1½ BATHS

THE PRACTICAL advantages and convenience of staggered, multi-level house plans are again appealing to the public. During the past year, the economy of excavation and space utilization have proven added factors in this increased popularity. The 5-level plan of the house shown above which was built by Fred J. Walsh, Chicago, and designed by that firm's staff architect, Martin H. Braun, offers a good layout of 8 rooms and 1½ baths. Compactness and economy are evident when this roomy plan is compared to the exterior pictured above. The possibility of adapting this type of plan to a wide range of individual needs is also to be considered—maid and play room level could be used instead as a single, large recreation area; lower basement level could be omitted and a garage and utility room placed on the grade level; upper bedroom level might be left for later finishing. Because of the irregularity of window placement, several of the more picturesque exterior styles of architecture can be used.



SECOND FLOOR PLAN

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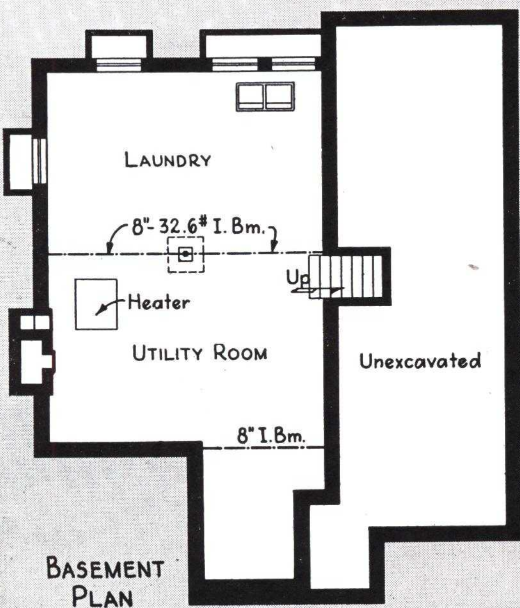
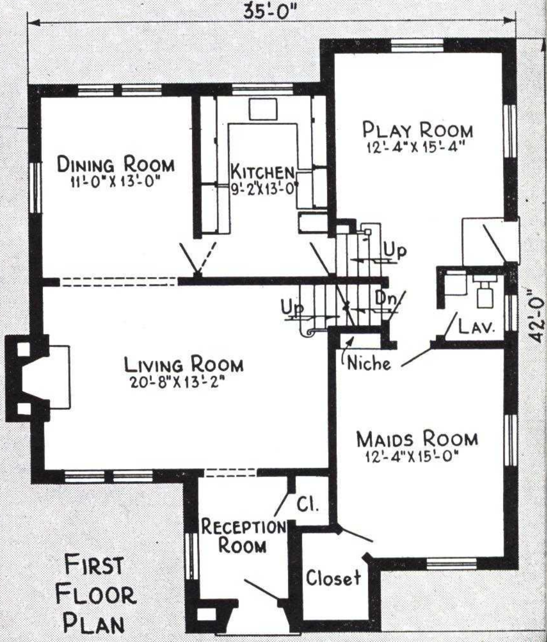
PLANS at right show laundry and heating system on basement level a half-flight of stairs below the grade level on which maid's room, lavatory and play room are located. Living room, dining room and efficient U-shaped kitchen are at front entrance level. An 8-riser stair out of living room leads to the bath and two bedrooms; third bedroom is on top level.



BASEMENT PLAN



FIRST FLOOR PLAN

Photo by DUPREZ
IN ADDITION to the practical and well laid out downstairs, there is space above for 2 additional rooms in this Long Island prize winner.

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Borough of Queens Prize Winner

"Home of Today" at Bellerose Manor, L. I., Gets Architectural Award in County Where More Homes Are Built than Any in U. S.

IN THE Borough of Queens adjacent to New York City, a more concentrated volume of home building takes place than in any similar area in the U. S. Because of this vast volume of home construction new ideas develop quickly and in many respects this county sets styles and precedents that are widely adopted elsewhere in the country.

For this reason the prize winning design shown above, built by the Bellerose Housing Corporation of which Max W. Gross is president, is significant. This little house, with an overall first floor dimension of only 26′ by 29′ 6″, was awarded the first prize in the annual architectural competition of the Chamber of Commerce of the Borough of Queens for dwellings in the less than $5,000 price class. It was designed by Architect Fred J. Burmeister and may be fairly considered a typical example of what the fastest building county in the U.S. considers a practical, salable home in the popular price class.

President Gross of Bellerose Housing Corporation calls this house "The Home of Today" which is a pleasant antidote to some of the futuristic names and plans that have lately been getting much publicity.

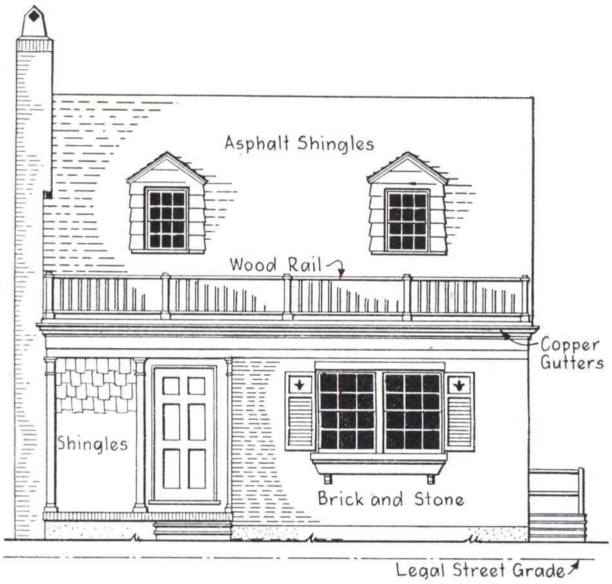
This is not the theoretical dream of some draftsman who has never designed a house that could be sold, but the practical, livable and salable result of years of experience in one of the most competitive home building areas.

Bellerose Housing Corporation has erected more than 400 homes in the Bellerose Manor community on Long Island in the past few years. Plans and early operations are now under way by Mr. Gross for 400 more dwellings in this section.

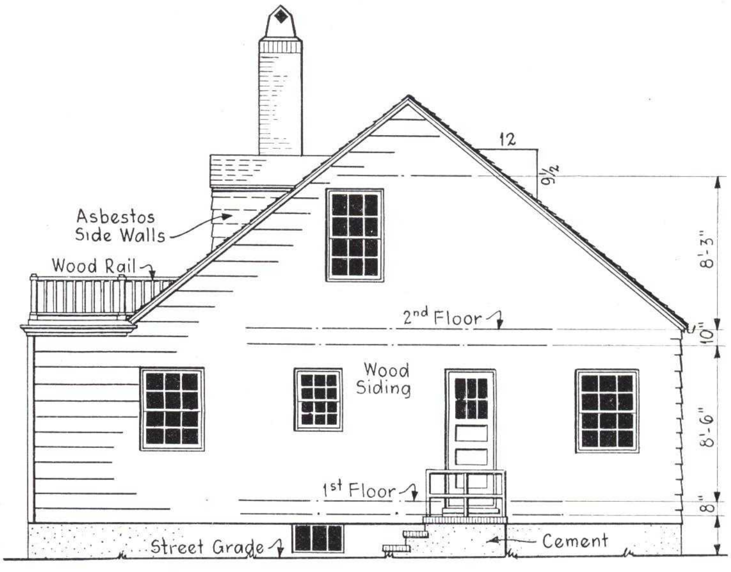
Architect Burmeister points out that in designing "The Home of Today," he was guided by popular public preferences.

"A recent poll of one-family house prospects," he explained, "resulted in an overwhelming vote in favor of an adaptation of the Cape Cod and Colonial types of architecture. Because of this, we incorporated these features in the Bellerose Manor homes.

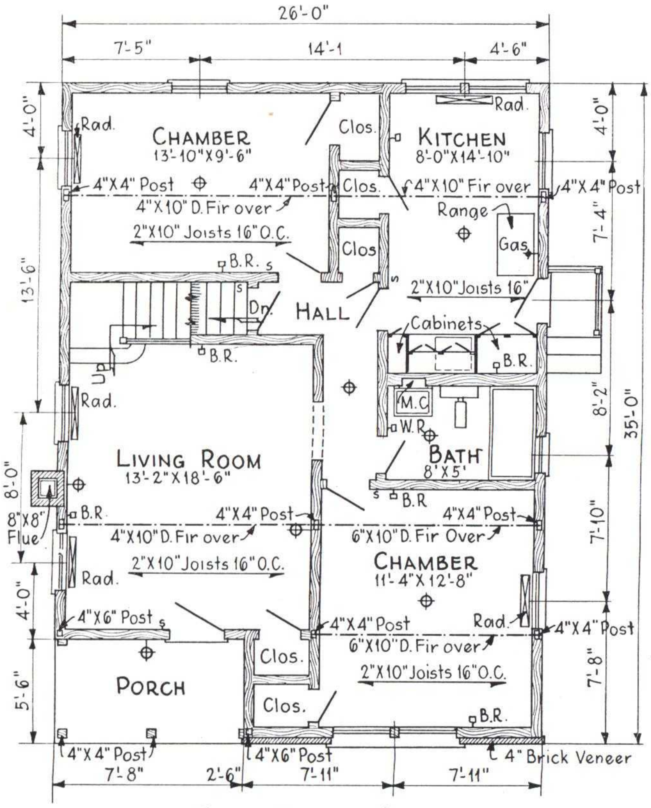
"These dwellings were designed to sell under $5,000,



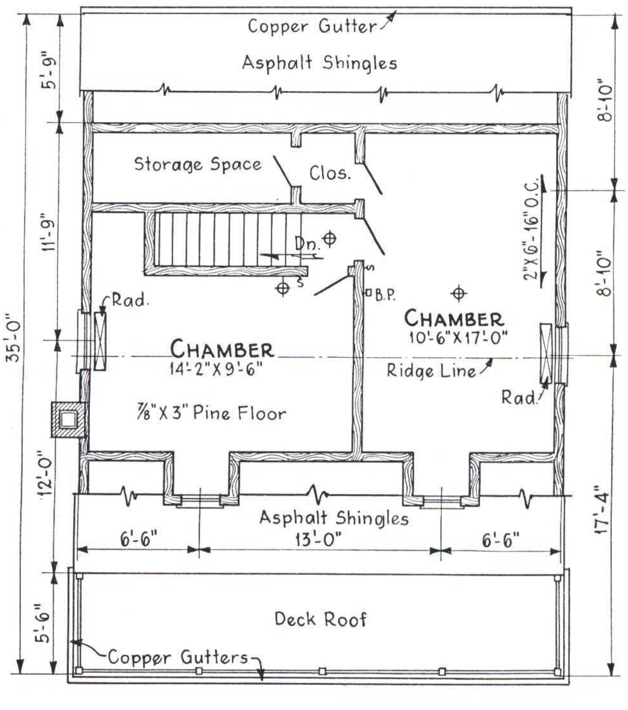
FRONT ELEVATION



SIDE ELEVATION



FIRST FLOOR PLAN



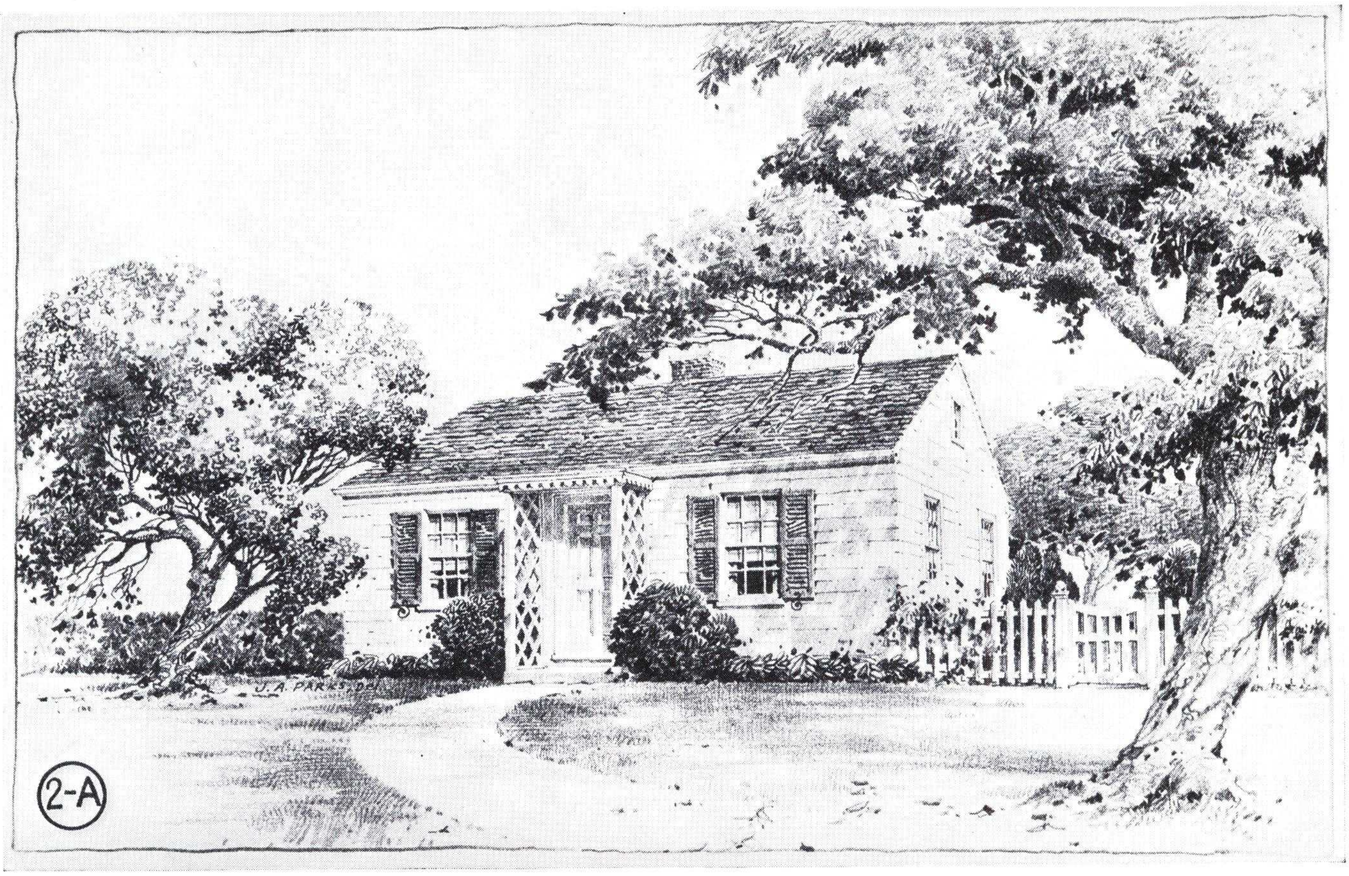
SECOND FLOOR PLAN

COMPACT, with an overall dimension of only 26' x 29' 6", this prize winning Bellerose Manor house provides 4 bedrooms—2 downstairs and 2 upstairs. The living room is approximately 13' x 15'. The kitchen-dinette is of good size and unusually well lighted with a large picture window. The plumbing layout for bath and kitchen is most economical.

complete and fully detached on a large plot of ground. They are all financed under the 25-year Federal Housing Administration plan which requires a down payment of 10 percent and total monthly payments of about $35. Every plot is graded, seeded, landscaped and provided with sidewalks, curbs, public improvements such as sanitary sewers, paved streets, gas, water and electricity. A winding front walk leads to the authentically styled Colonial entrance under a roofed open porch.

"The Home of Today" comprises a spacious living room with open staircase, arch entrance to center foyer off which are two bedrooms, bathroom, kitchen and dinette. The large and airy kitchen with its adjoining breakfast room is almost entirely surrounded by windows and is provided with a separate service door and stairway to basement. It is equipped with hanging dish closets, broom closet and utility cupboard. Its double wood floor is covered with Armstrong inlaid linoleum. The conveniently located bathroom has a built-in tub and shower surrounded by colored tile. The well ventilated, full height of basement is provided with a laundry, boiler room, storage and space for a large recreation room.

"The popularity of this type of home lies largely in the space available in the attic for two additional rooms without requiring structural changes in the house."



National Small Homes Demonstration for 1939

Two Master Plans with Twelve Exteriors Offered Builders and Dealers for Display

AGAIN the National Lumber Manufacturers Association has created a group of outstanding exterior designs which will be used with two master plans in the 1939 National Small Homes Demonstration. These attractive, economical designs are described as "the answer to a subdivider's prayer" in the search for practical, economical housing for the mass market during the coming year. The houses are divided into two groups, as shown by the drawings on this and the three following pages. The first group carrying the figures 2-A to 2-F offers variations of four-room plan below; different types of styling and use of porches, garages and similar details give a group of six different appearing one-story houses. The second group, on the two pages following, provides variations for a two-story 5-room plan.

IN the 1939 National Small Homes Demonstration, the heating, electrical and plumbing industries are preparing to provide "package use units" for each of the two plans to allow further savings by means of standardization.

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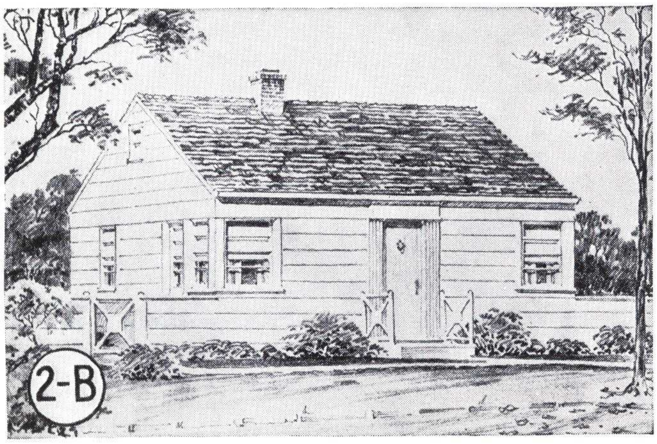

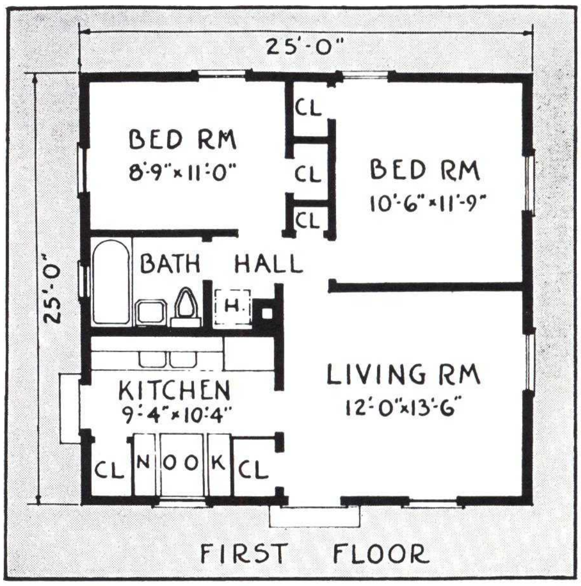


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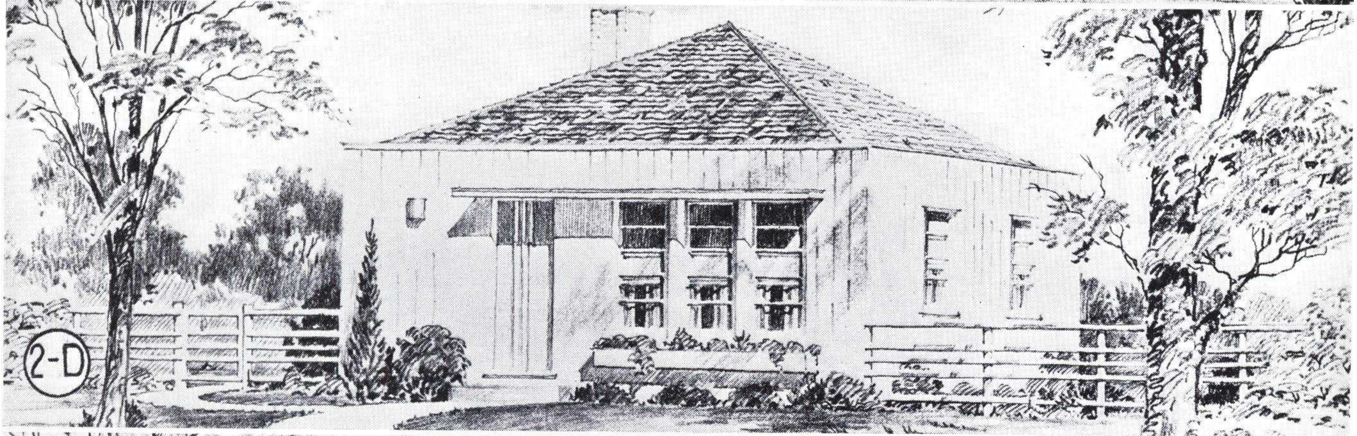
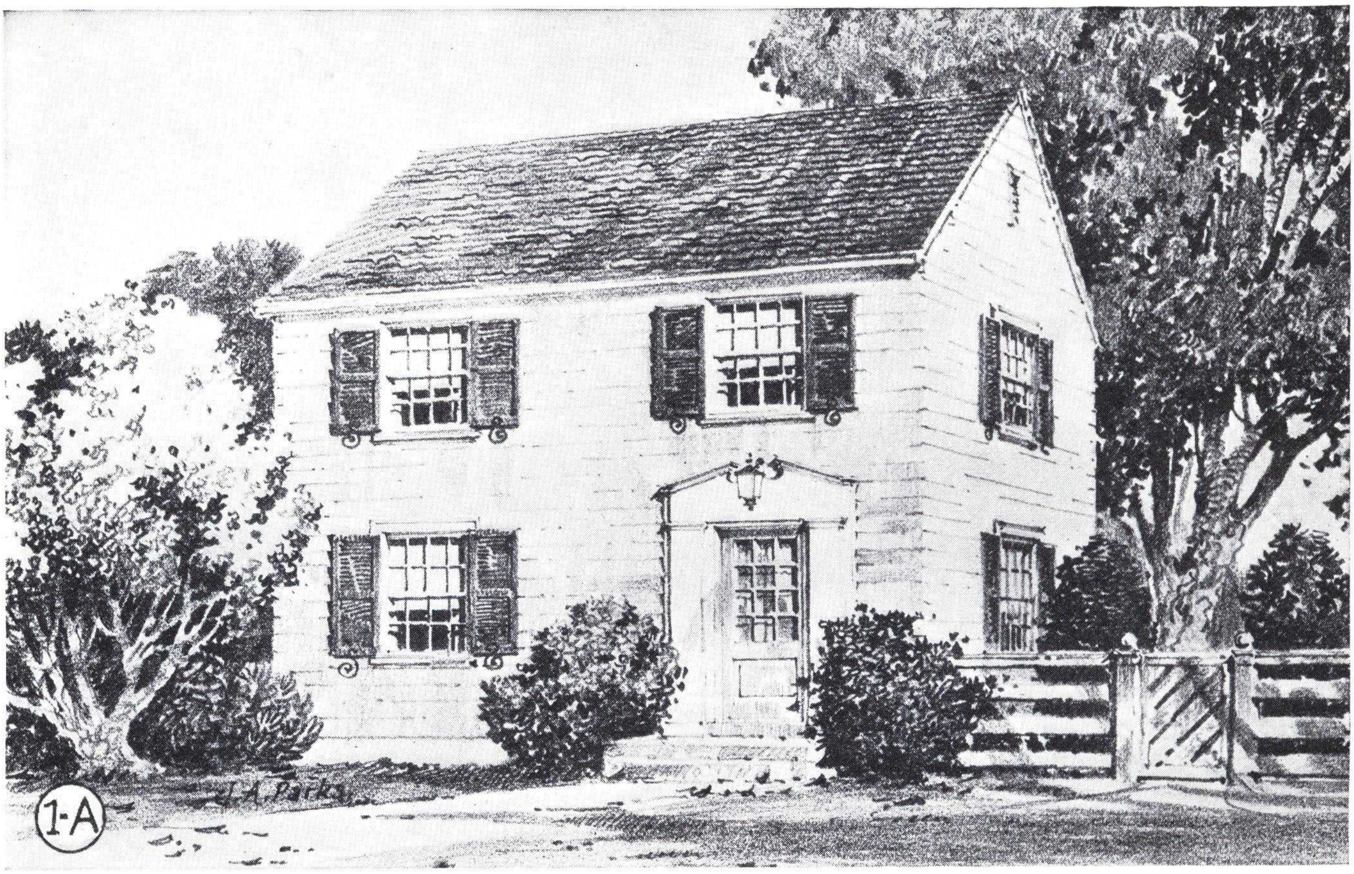

2-D

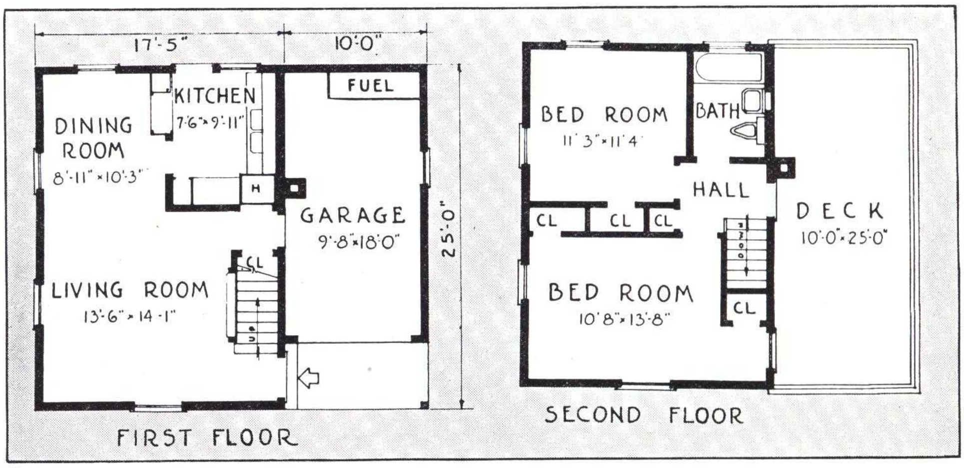
2-E

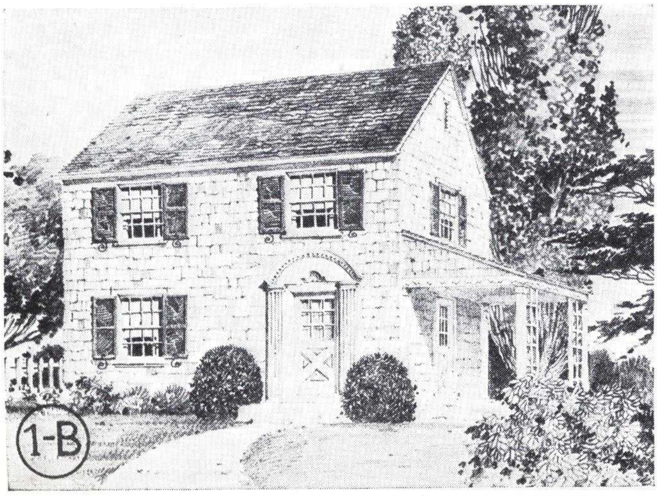
2-F

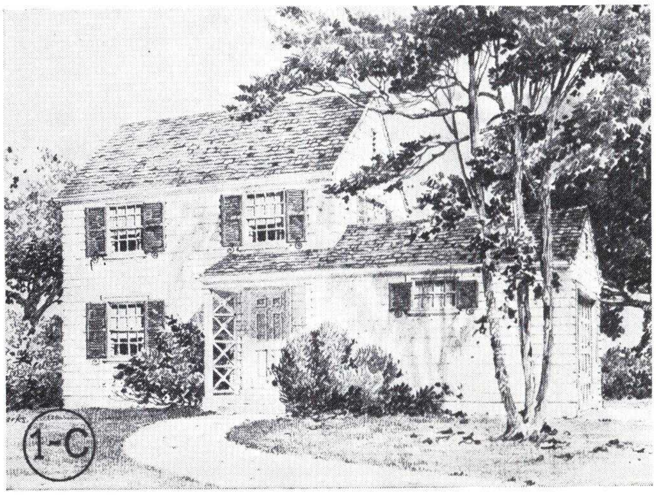


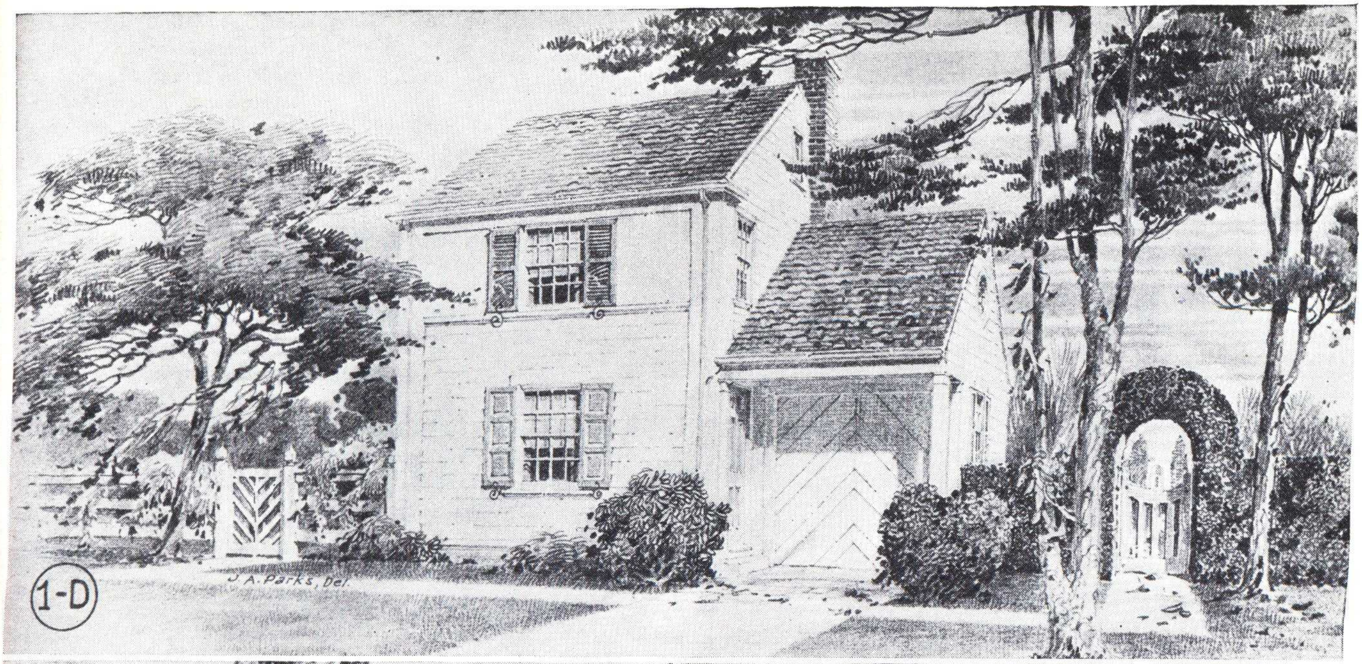
THE six exterior variations for the National Small Homes Demonstration two-story master plan are as carefully planned for economy and attractiveness as those for the one-story plan shown on the two preceding pages. Here again the variations are worked out by turning the plans and using different types of architectural features.

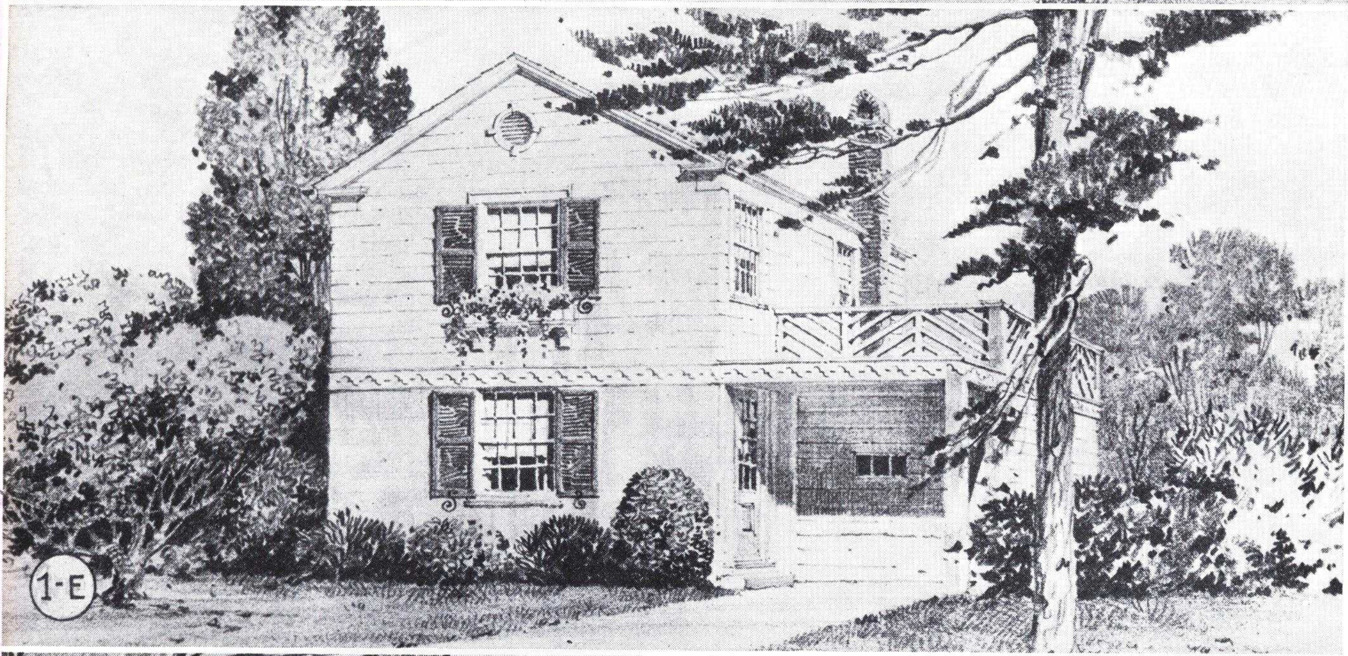
AMERICAN BUILDER
Tru-Cost FIGURES
FOR THIS HOUSE
ON PAGE
176








1-D
J. A. Parks, Del.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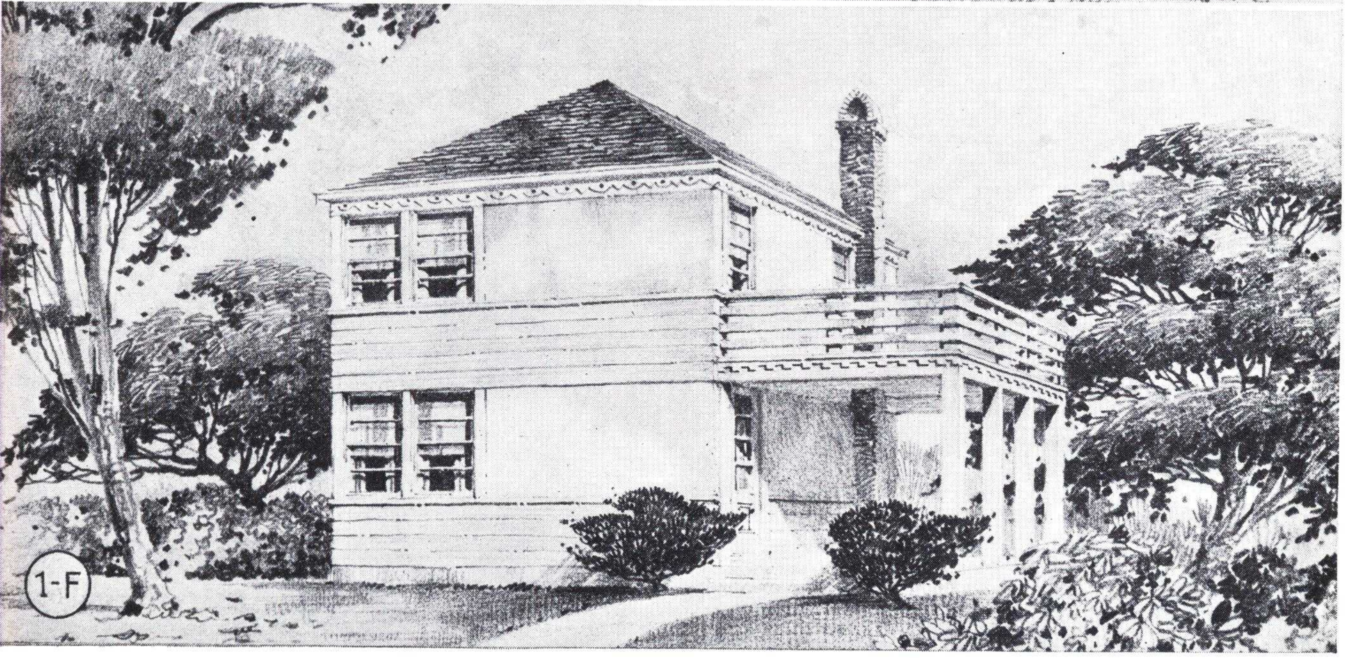
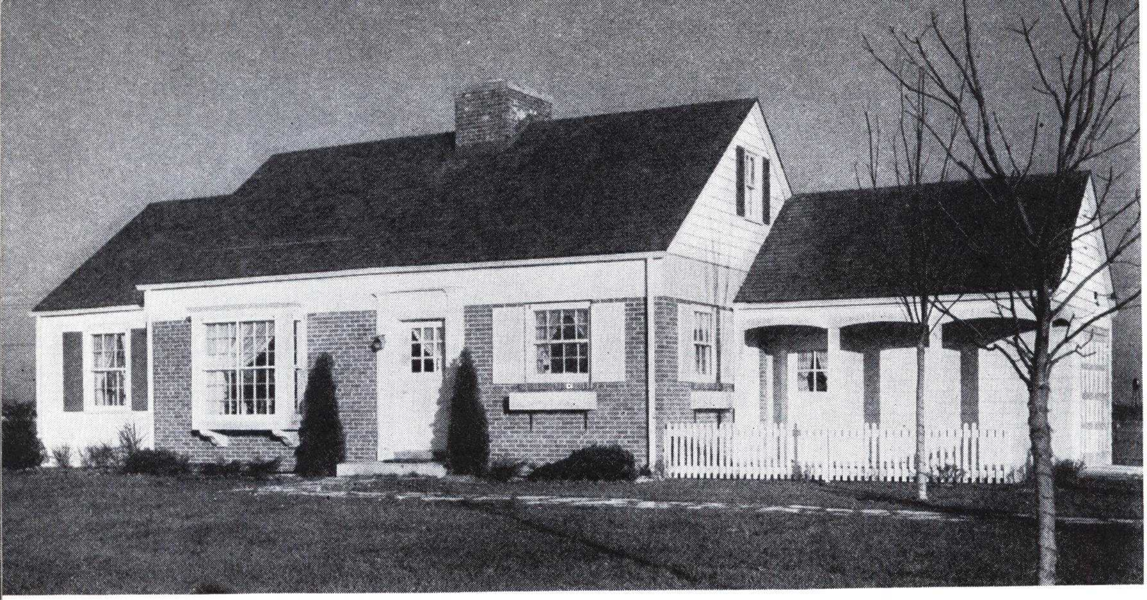
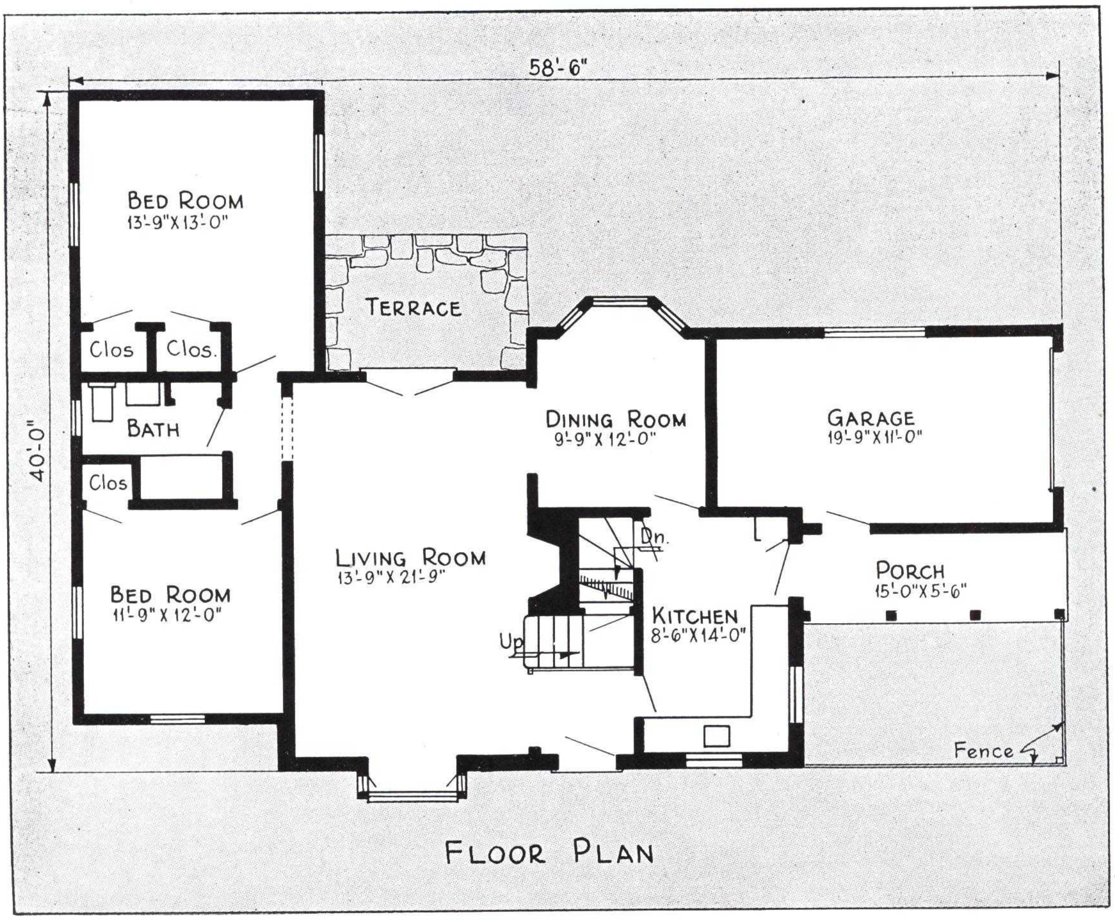

1-F



THE attractive Cape Cod cottage shown at the left built by Frank M. Howard in his Sunset Ridge development. Carries a 20-year FHA insured loan and features the following construction: Solid red face brick walls for the center portion; frame wings covered with Weyerhaeuser 5X predipped shingles over Sisalkraft paper on the shiplap. Roof is red cedar shingle. All sidewalls are insulated with Balsam-Wool and ceilings with 4" of U.S.G. Rockwool. Interior finish is 3-coat plaster on U.S.G. Rocklath base.

FOR PLEASURABLE LIVING BEYOND CITY LIMITS

AROUND large metropolitan centers the desire for more generously sized building sites has led to an extensive construction volume beyond the limits and water and sewer mains. This fact, together with the frequent lower building costs, has opened up many new areas. Builder Frank M. Howard has just such a successful development under way near Wilmette and Glenview, Ill. Lack of city water and sewer facilities has been no drawback because, on the large 100-foot front lots, the installation of steel septic tanks, each with a 200-foot absorption field laid in gravel, properly provides for the one requirement; 185-foot deep well systems equipped with 600-gallon steel storage tanks and Aeromotor deep well pumps take care of the water requirements for groups of six houses, at a cost to each owner of 30 cents per month for maintenance and current. A grease trap for the kitchen waste and a sump pump for basement drainage are accessory items. Other equipment includes Modern Steel Equipment kitchen cabinets with a Tracy sink, Standard plumbing fixtures, and Sunbeam gas-fired winter air conditioning system. With such equipment the modern country home can offer all the conveniences of improved city properties.



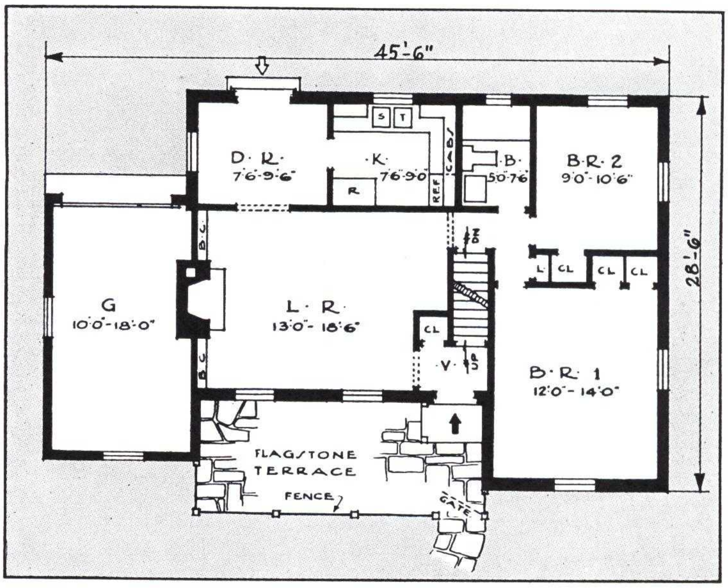
AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 176

EACH house in Builder Howard's development is individually and distinctively designed for convenient living. In the floor plan at the left the entrance stair hall opens directly into the large cross-ventilated living room. A door also leads directly to the efficiently arranged kitchen from this hall. French doors lead out onto a terrace which overlooks a fine view of the open country. Attached garage is reached from the rear entrance porch. Basement extends only under the center portion; second floor is left to be finished later.

A PLEASANT WINTER SCENE at Alden Estates at Port Chester, N. Y., featuring one of the popular 5-room and garage cottages.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 176

COTTAGE TYPE CONCRETE HOMES SELL WELL



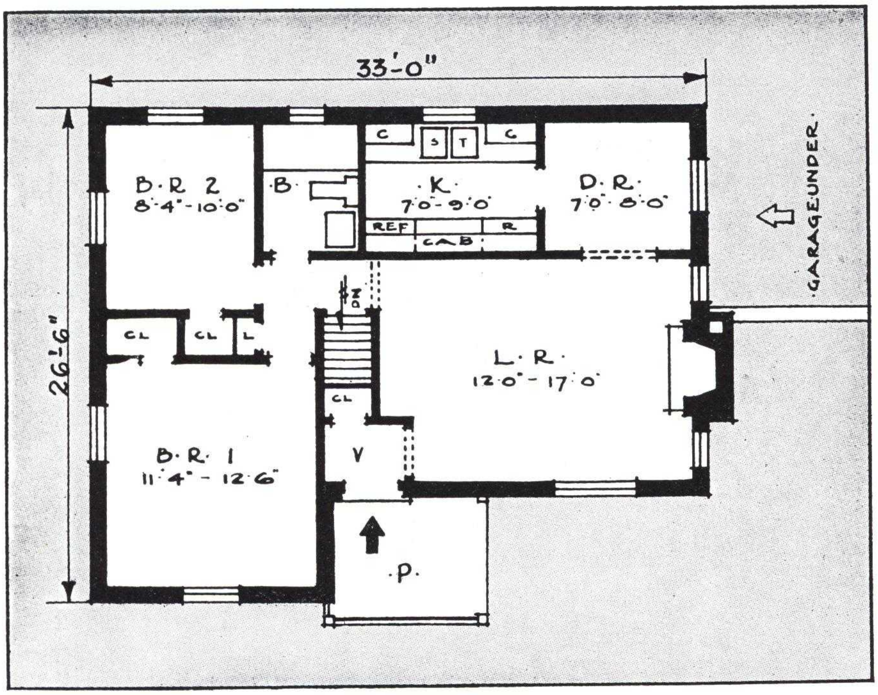
THE general layout of these cottages follows the plan above. By comparing it with those on the following four pages it will be noticed that clever variations give different dining rooms, stairs and entrances.

COTTAGE type homes featuring two or three bedrooms on the first floor, with a stair leading to the attic for future space, have proved especially popular at Alden Estates, a successful development located on the border between New York state and Connecticut. Under the energetic direction of John W. Fries some 50 houses, practically all of the cottage type, have been sold.

Fries is an active exponent of concrete construction and has adopted a uniform policy of using concrete for both walls and floors. Exterior walls above basement consist of two 4-in. walls of cinder concrete blocks with a 2-in. air space between. The two walls are tied together by special metal wall ties placed in every third course of blocks. Interior walls are finished in plaster, the plaster being applied directly upon the cinder blocks.

Floors of the Fries' houses consist of 3 by 8-in. reinforced concrete beams over which 2-in. cinder concrete slabs are placed. Over this 1½-in. of mesh-reinforced concrete is placed, with levels adjusted for either wood flooring or linoleum finish. All interior partitions are of cinder concrete blocks.

To complete this lifetime type of construction Fries uses U.S.G. Redtop insulation; Flintkote thick butt asphalt shingles; 16-oz. copper flashing, copper gutters and leaders; brass plumbing pipes throughout; Fenestra steel windows; concrete porches, steps and walks.

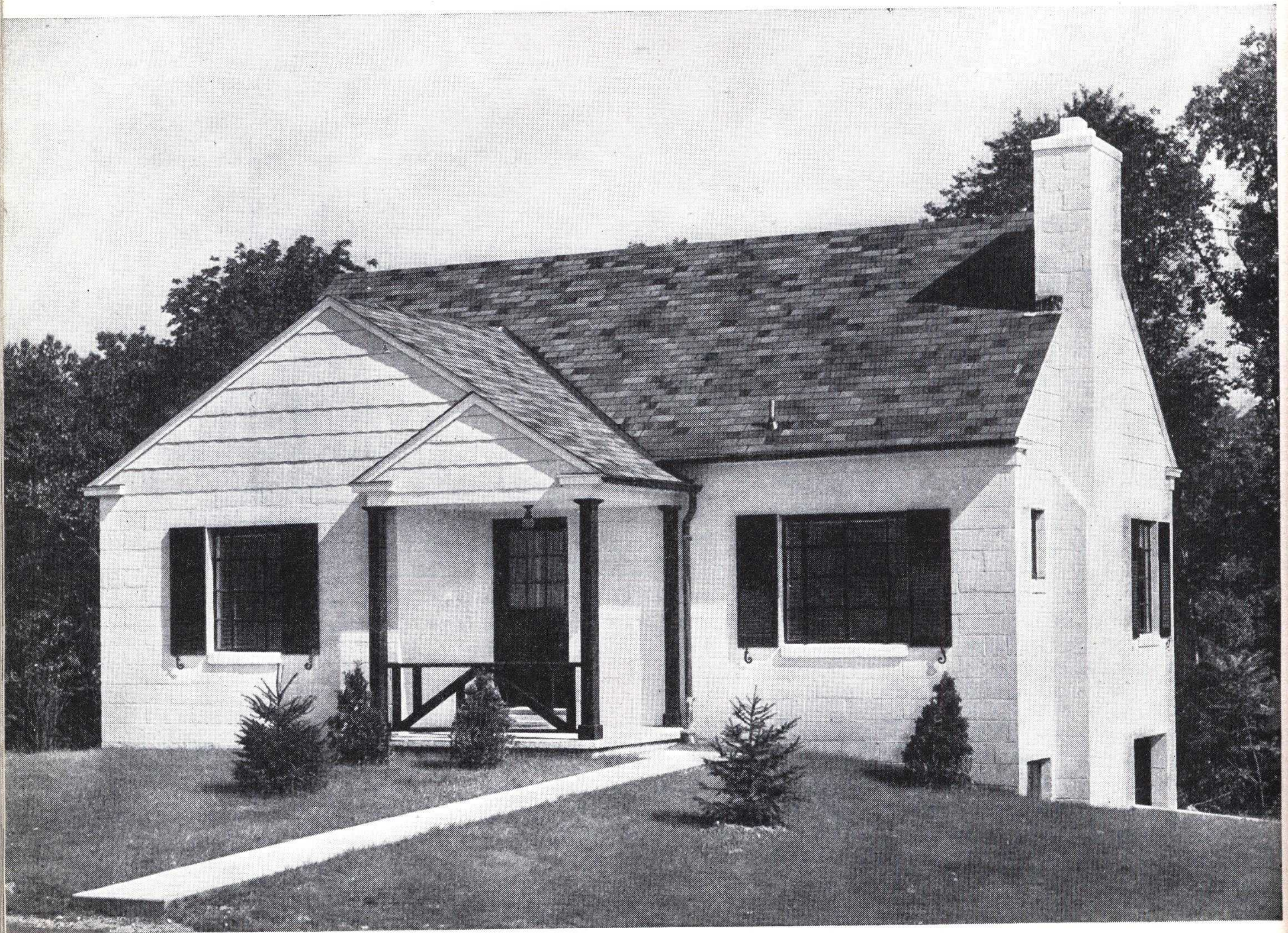


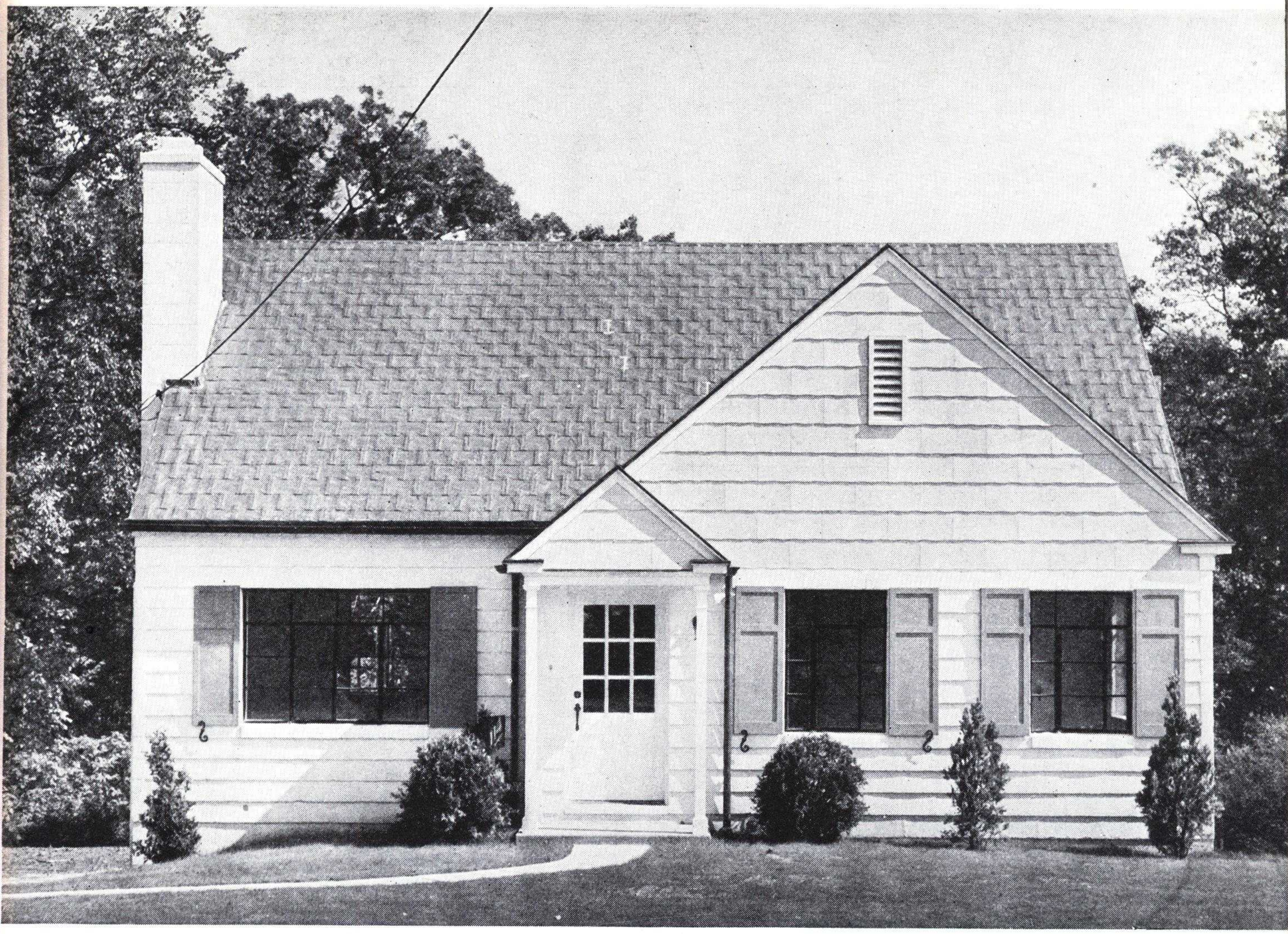
A COTTAGE TYPE HOUSE with 12 x 17 ft. living room and a compact arrangement of dining room, kitchen and bath. House is economical to frame, has good exposure.

AMERICAN BUILDER TruCost FIGURES FOR THESE HOUSES ON PAGE 176

WESTERN DESIGN GOOD IN EAST

THERE IS A SUBSTANTIAL, comfortable look about this house built by John W. Fries in Port Chester, N. Y., that would make it seem equally at home in Wisconsin or Iowa. The open porch is an attractive feature and blends in well with the roof line. Garage is located underneath the rear of the house. Walls are of two layers of concrete cinder blocks, and floors are also of cinder concrete.

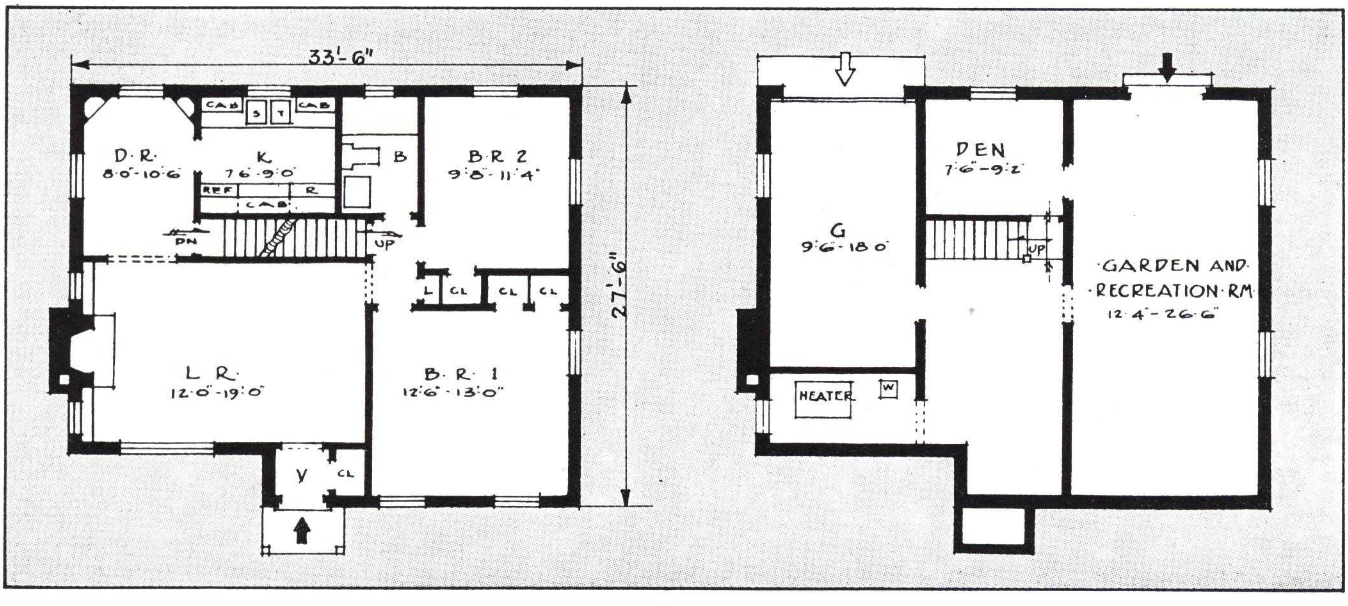




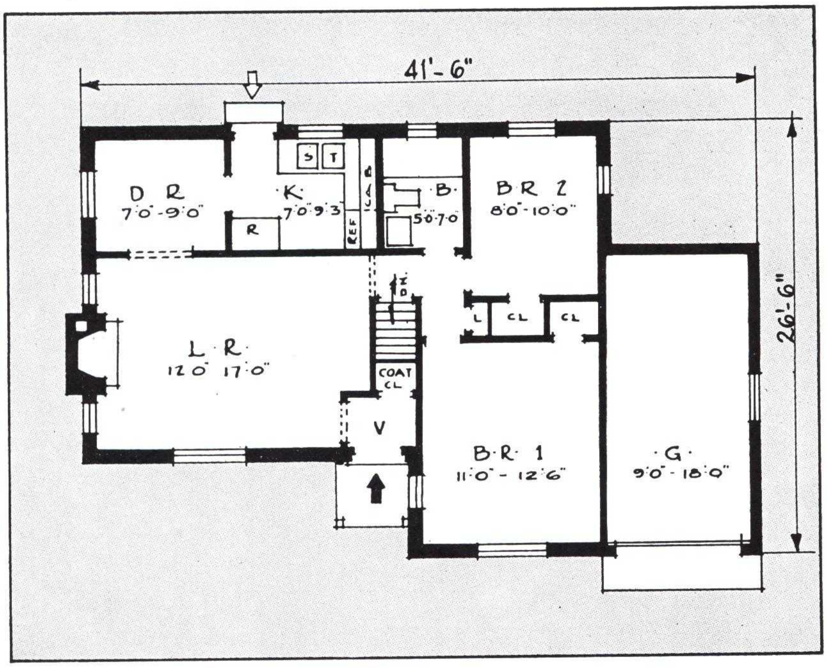
CONCRETE MASONRY SIDING

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 176

A NOVEL TYPE of cinder concrete block was used in this Alden Estates home at Port Chester, N. Y., which simulates the appearance of wide wood siding. The upper part of the gable is executed in asbestos cement siding. Basement area includes a garage, den and recreation room.



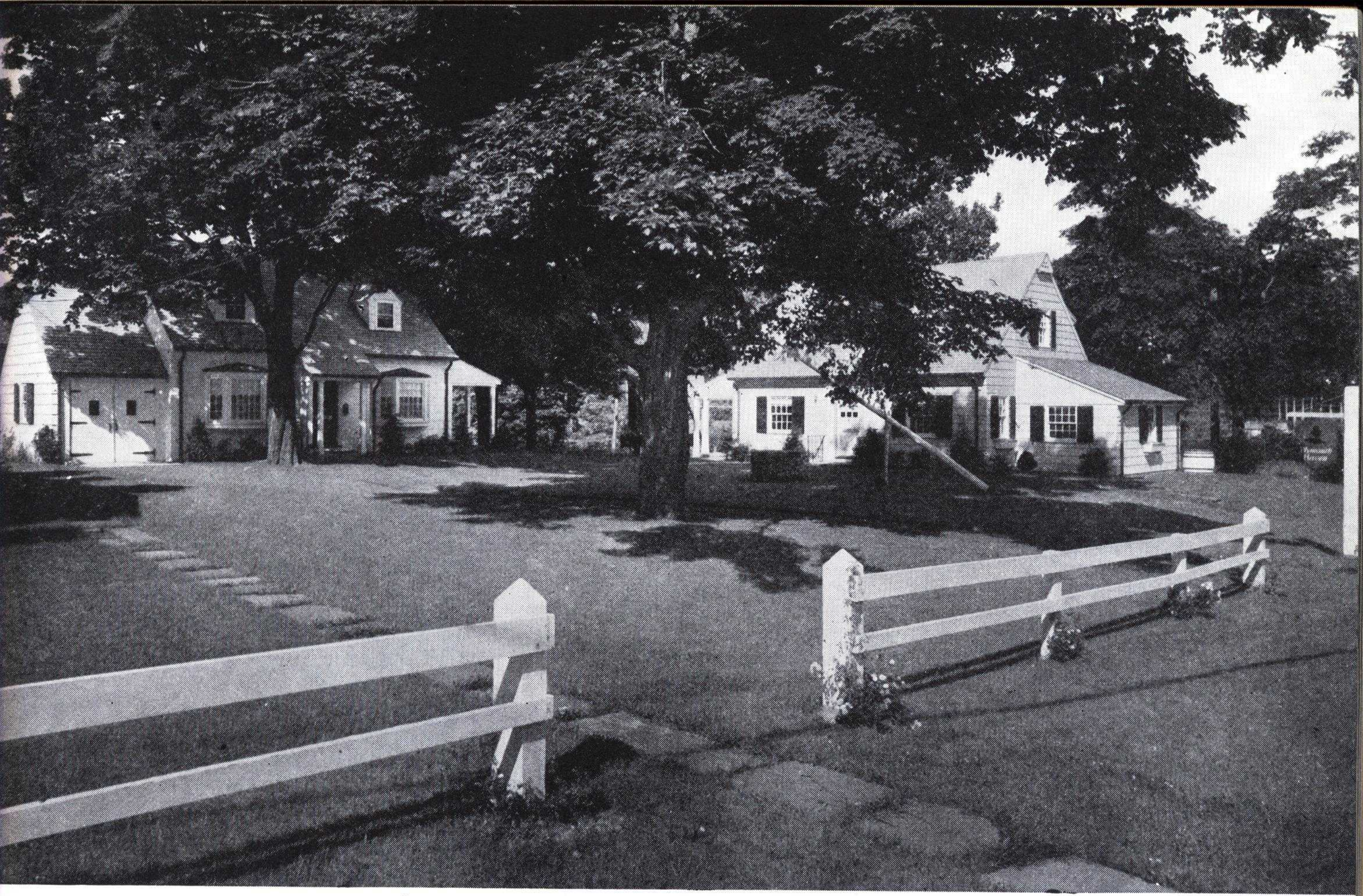
A COTTAGE THAT HUGS THE GROUND



FIVE ROOMS and attached garage are provided, including a convenient coat closet at entry, 12 x 17 ft. living room, a small dining room, 2 good bedrooms and an economical arrangement of kitchen and bath.

THIS COMPACT MASONRY HOME in Alden Estates at Port Chester, N. Y., is designed for a sloping lot and fits into that lot in a particularly successful way. The attached garage is dropped to a lower level. Both floors and walls are of concrete, and chimney is built of cinder block units. Steel windows, a durable asphalt shingle roof and such other lifetime features as copper pipe and copper flashing assure that upkeep will be low.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 176



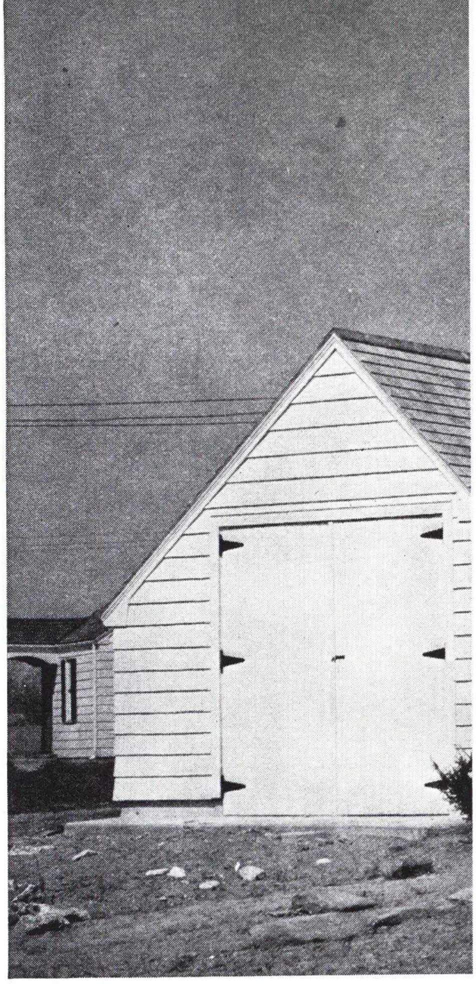
Low Cost Homes of Charm and Appeal

To Have Wide Popular Appeal, More Than Efficient Planning and Sound Construction Should be Built Into a House Which Prospects Will be Considering as a Future Home.

THE views above and to the right illustrate the attractiveness of setting, design and detail of Plymouth Haven, a community development described and pictured on pages 34 to 37.

SMALL COLONIAL BEAUTY

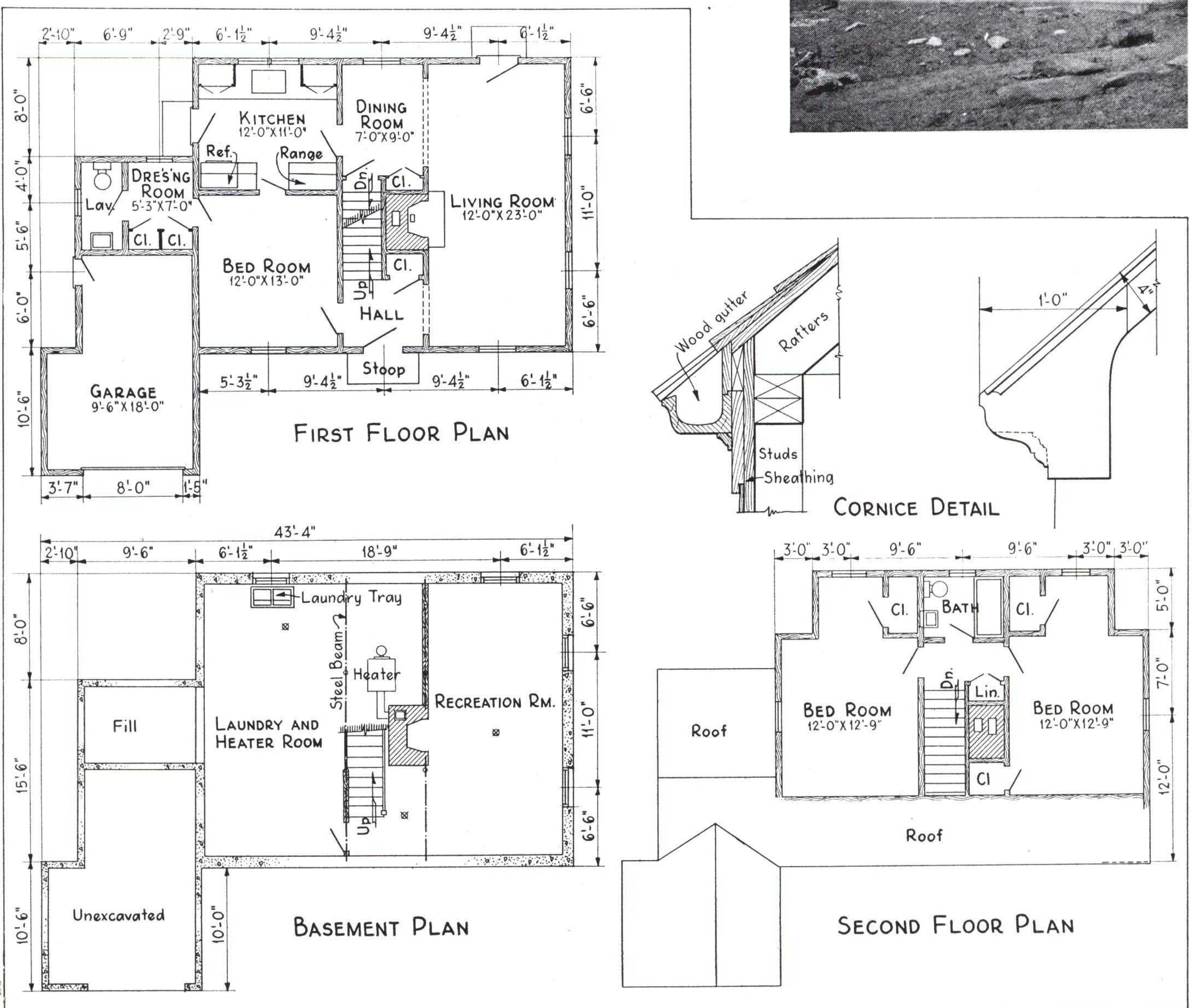
Cubage Only 18,500—Has Downstairs Bedroom, Lavatory and Dining Room

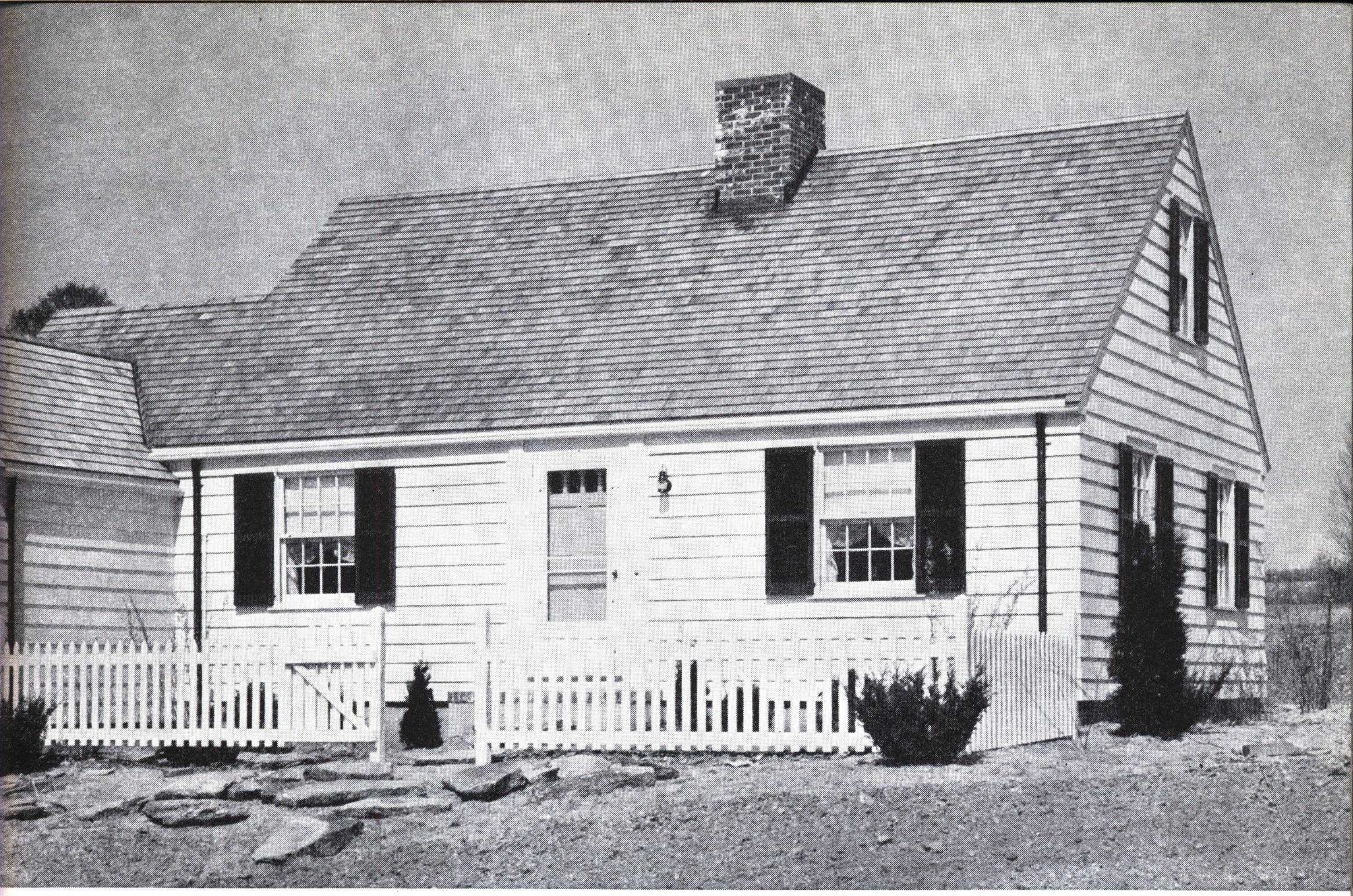


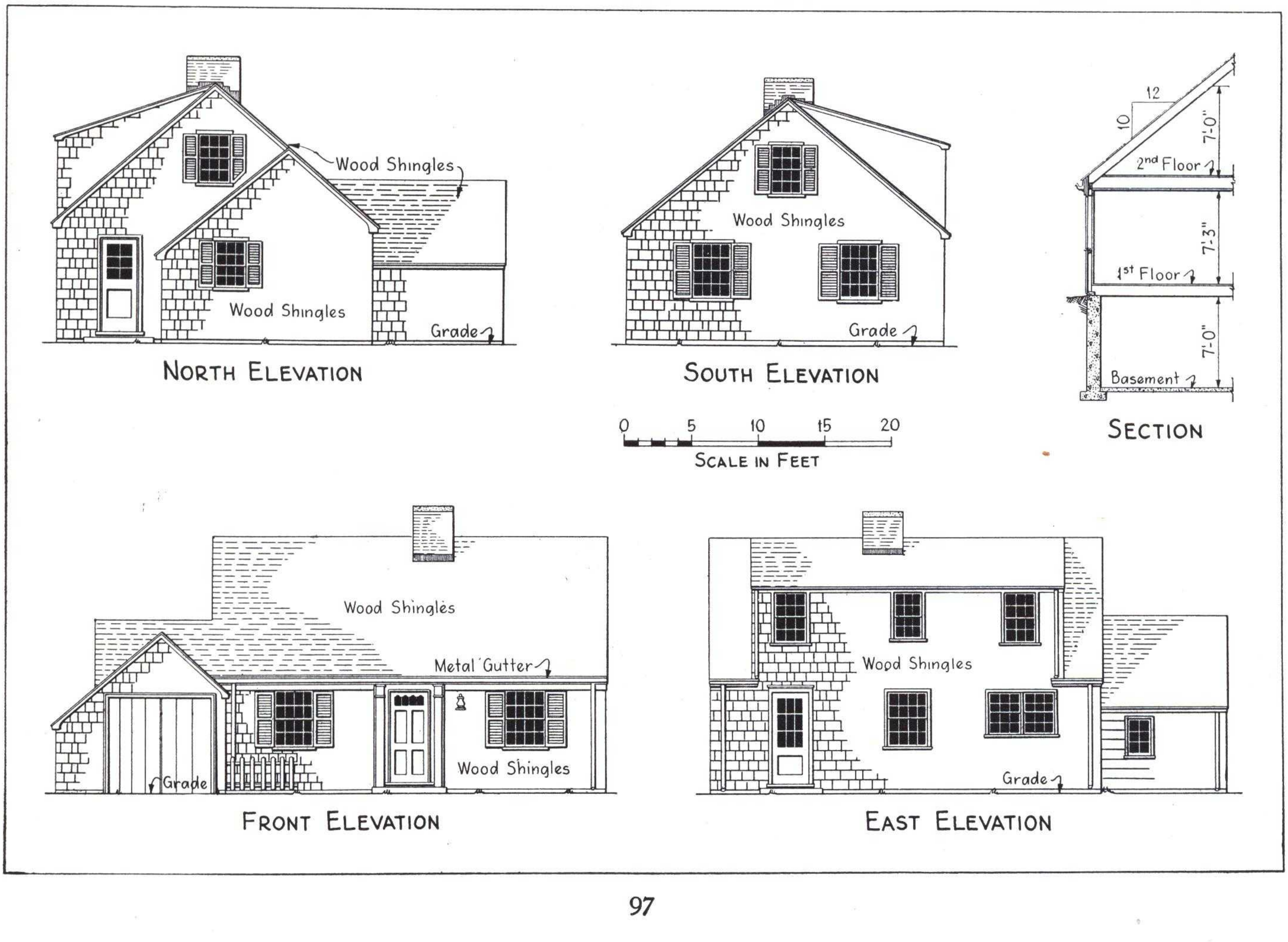
IF AMERICAN BUILDER had a supply of gold medals it would award the first one to this little 6-room Colonial, designed by Norris F. Prentice and built by Charles F. Monzeglio, in Orchard Lane, Glastonbury, Conn. The exterior design speaks for itself—it is a beauty. The floor plan is outstanding in that it provides a downstairs bedroom, with a lavatory and dressing room tucked away behind the built-in garage. The living room is large, and the dining room cleverly placed at the rear. The hall closet, stair and fireplace arrangement uses a minimum of space.

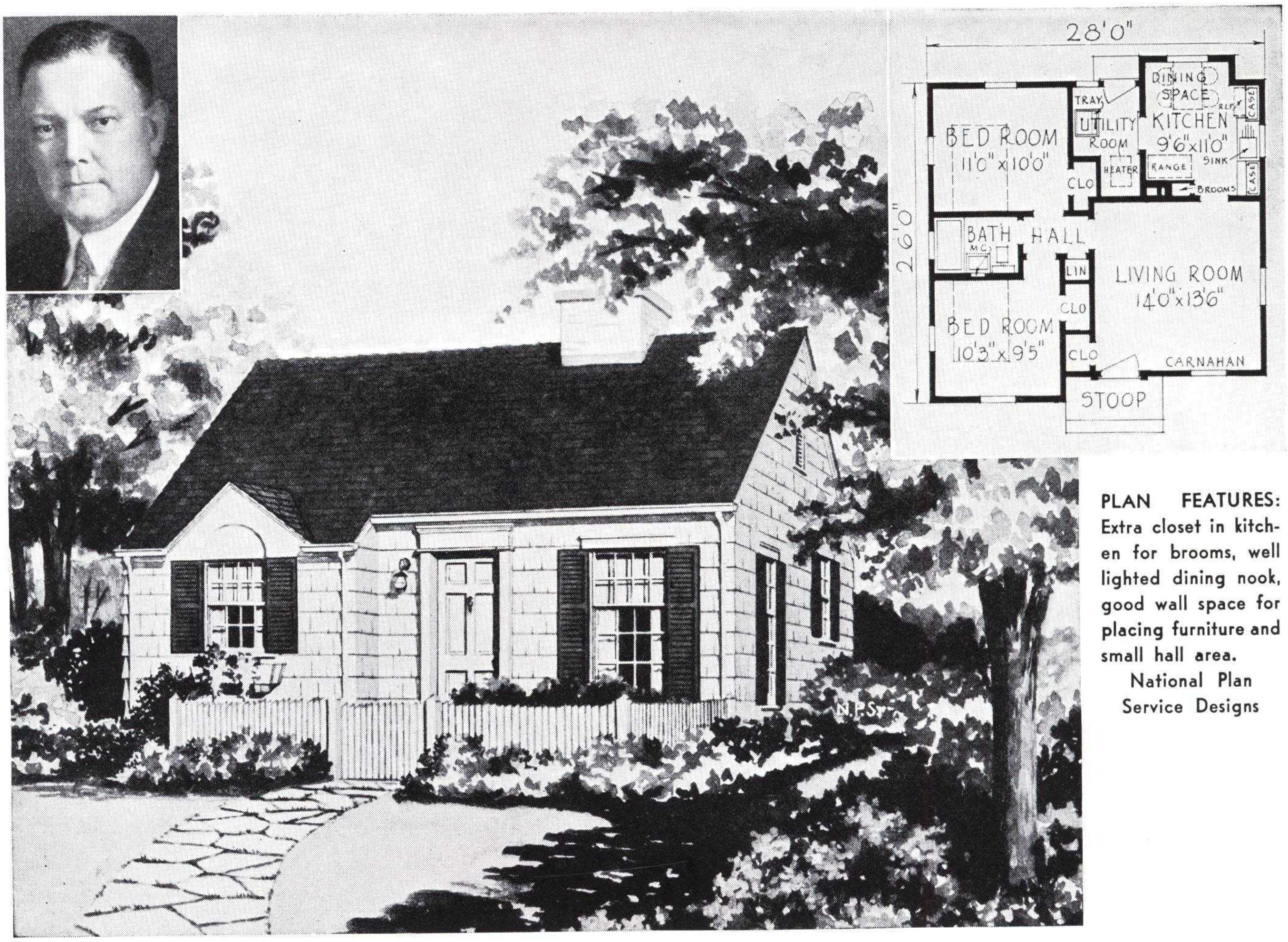
SPECIFICATIONS include Balsam Wool blanket-type insulation; Andersen double-hung windows; Curtis Colonial cabinets; Gyplap gypsum lath; Kohler fixtures; brass pipe; oil burner with vapor heating system. Low ceilings conform to the Colonial style. There is a recreation room in the basement.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 176





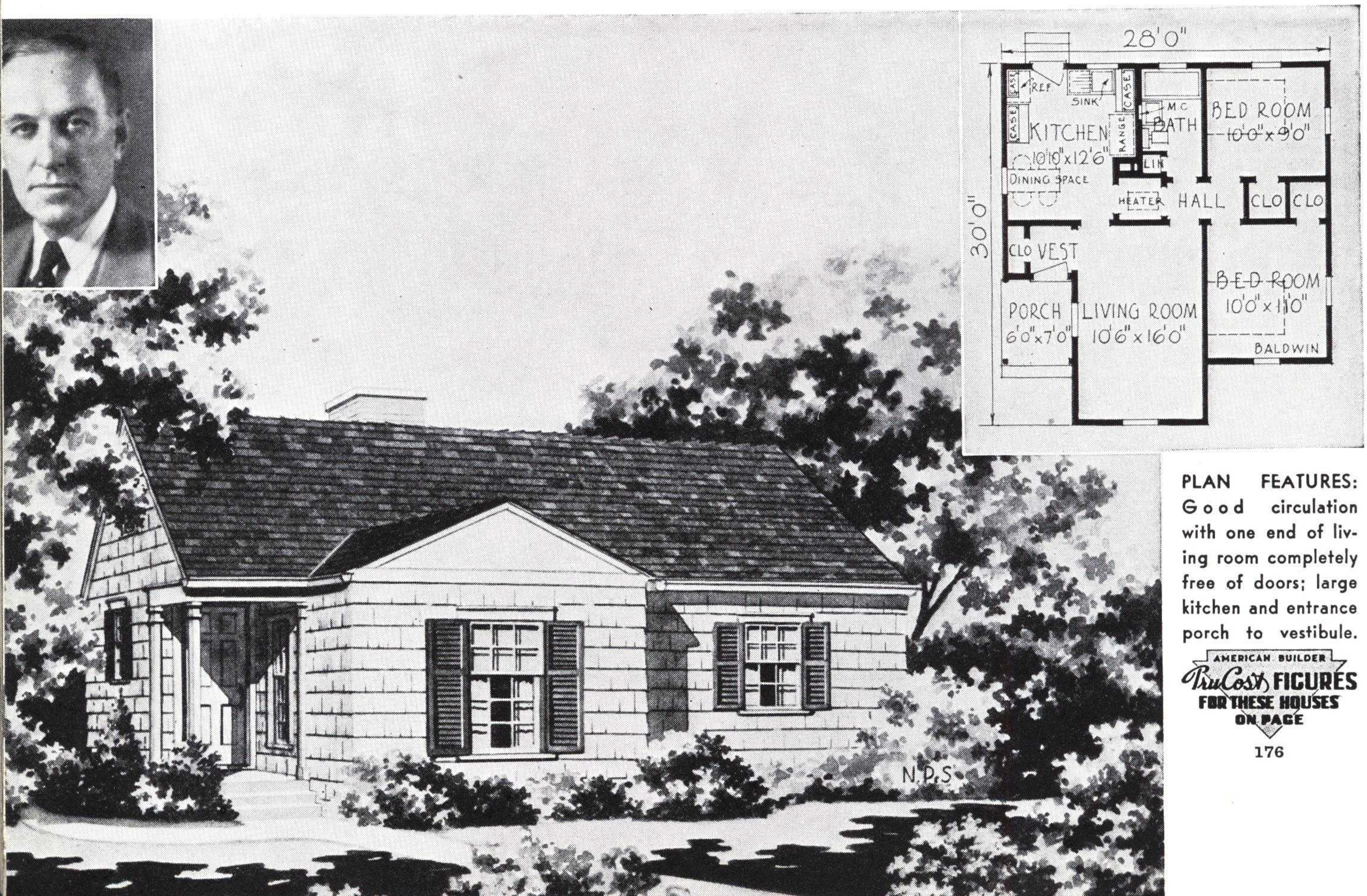

Wood Shingles
Wood Shingles
Grade
North Elevation
Wood Shingles
Grade
South Elevation
12
10
7'-0"
2nd Floor
7'-3"
1st Floor
7'-0"
Basement
Section
0 5 10 15 20
Scale in Feet
Wood Shingles
Metal Gutter
Grade
Wood Shingles
Front Elevation
Wood Shingles
Grade
East Elevation



PLAN FEATURES: Extra closet in kitchen for brooms, well lighted dining nook, good wall space for placing furniture and small hall area.

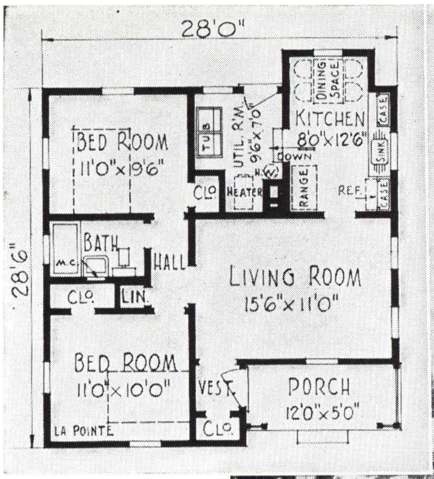
National Plan Service Designs

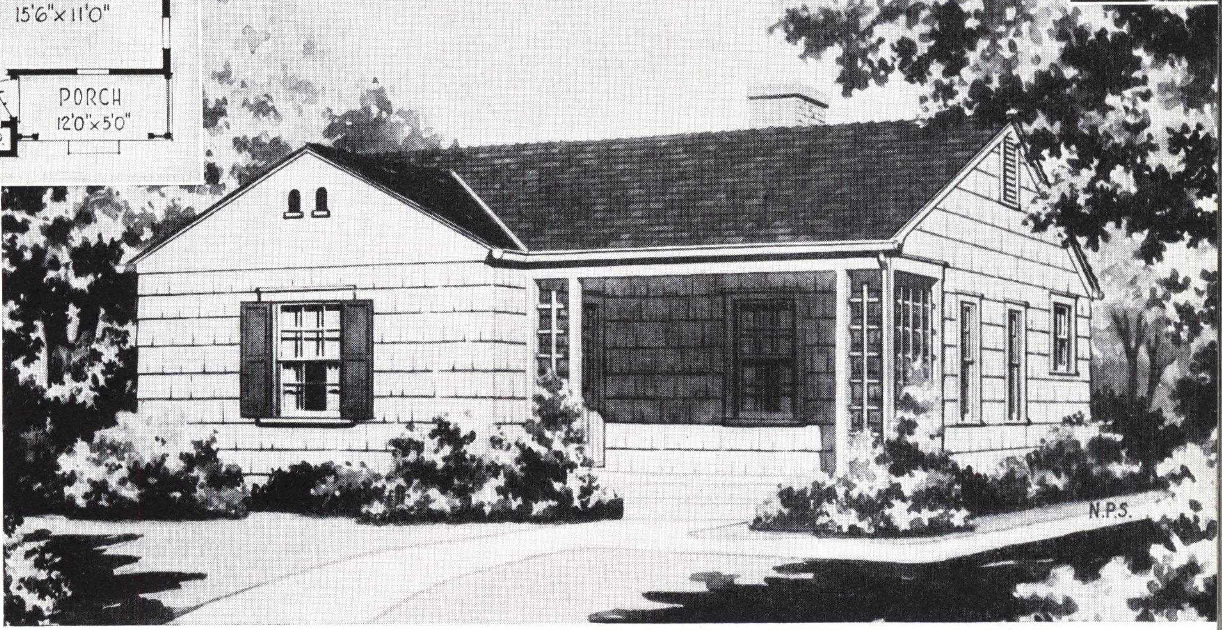
ABOVE: CARNAHAN MODEL Cottage, named for Frank Carnahan. Contains 10,100 cu. ft. of space well utilized.
BELOW: BALDWIN MODEL named for Spencer D. Baldwin. This is largest of Quints; cubic contents, 11,250 cu. ft.



PLAN FEATURES: Good circulation with one end of living room completely free of doors; large kitchen and entrance porch to vestibule.

AMERICAN BUILDER TruCost FIGURES FOR THESE HOUSES ON PAGE 176





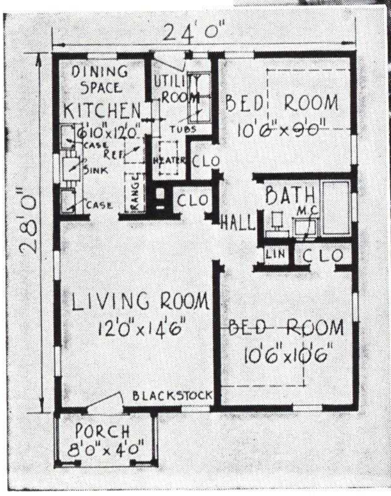
PLAN FEATURES: Dining space in kitchen, double laundry trays, covered front porch, ample closet space and good ventilation.

National Plan Service Designs

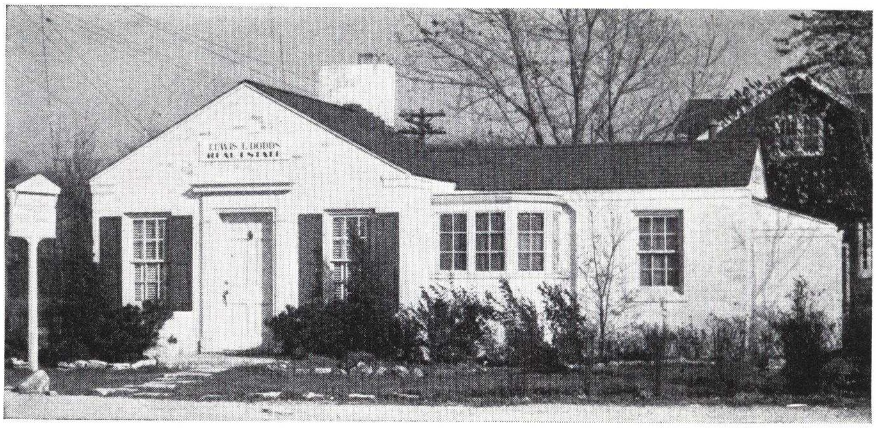
ABOVE: LA POINTE MODEL Cottage, named for George W. La Pointe. Four rooms; cubic contents, 9,760 cu. ft.
BELOW: BLACKSTOCK MODEL named for Carl Blackstock. Same size as La Pointe but different in arrangement.

PLAN FEATURES: Sheltered entrance, closet off living room, compact kitchenette, simple and economical roof design, and minimum of hall area.

AMERICAN BUILDER TruCost FIGURES FOR THESE HOUSES ON PAGE 176

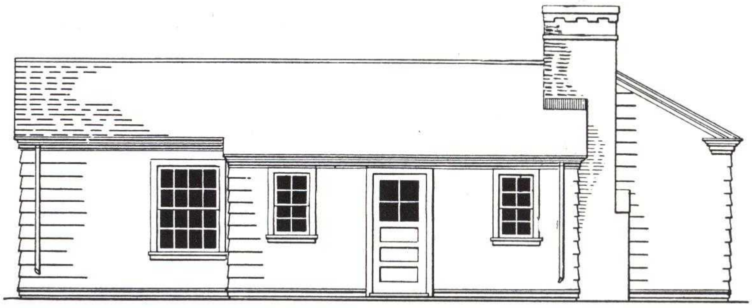


ATTRACTIVE REAL ESTATE OFFICE INSPIRES THE BUILDING OF SMALL HOMES

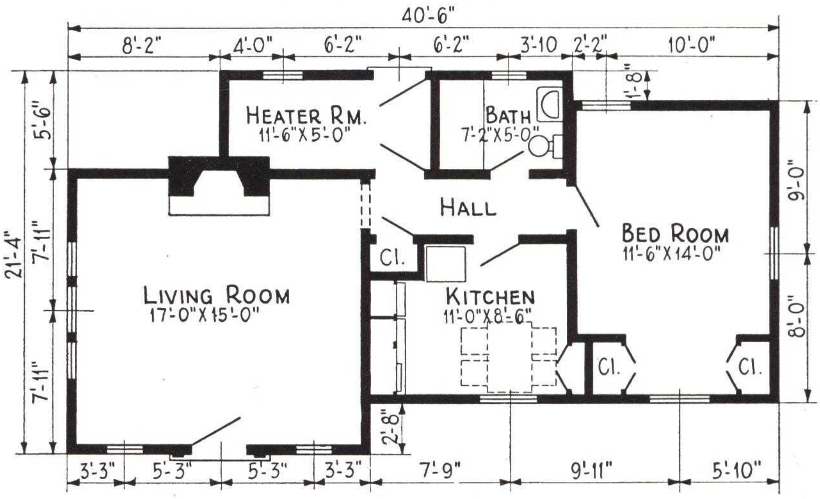


WHEN Lewis T. Dodds opened his real estate business in the attractive Colonial office pictured above at right, which he had built last year in Northfield, Ill., he did not then realize what a fine advertisement the building would prove to be. It is located at a busy intersection on route U.S. 41, and commands the attention of many passing motorists. Since occupying the building, Dodds has had people come in to try to buy this office as a place to live or to see if it could be duplicated elsewhere. In fact, he has even received inquiries from out of state regarding the availability of plans, price, etc.

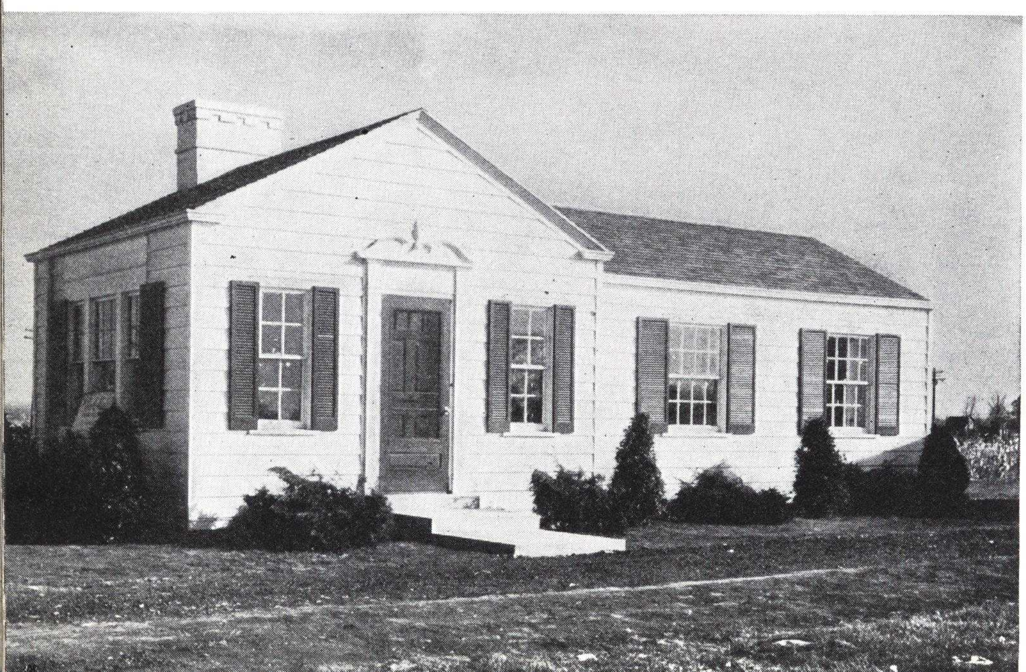
SINCE the public reacted so favorably to the style and price of his office building, the Cee and Eee Construction Co., Chicago, has recently designed and built two small houses of about the same style and size for Dodds on nearby lots. The smaller of these, a compact three-room basementless house which he calls "The Newlywed" is shown below with floor plan at the right. This one more nearly follows the exterior and layout of the office. The other one, as it appears on the opposite page, has four rooms including a second bedroom. The entrance has been moved to the main wing on that house which does not as closely duplicate the original building as the other.



REAR ELEVATION



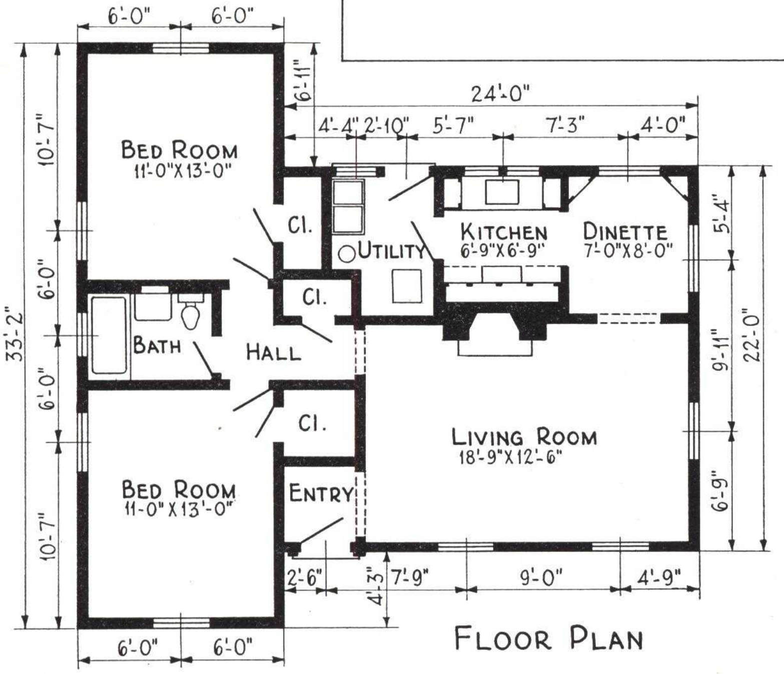
FLOOR PLAN



THE small three-room house at the left with floor plan above is about the last word in compactness. At the same time, however, it retains plenty of livability for one or two people. The living room has a Colonial wood-burning fireplace. Heater room directly to the rear uses a flue in the chimney for the gas-fired air conditioning system, and this same room also houses a laundry tray. Dining space is provided in the kitchen. The good sized bedroom has three exposures and twin closets at one end.

AMERICAN BUILDER TruCost FIGURES FOR THESE HOUSES ON PAGE 176

THE four-room small house at right with plan and elevations below is the larger of the two Lewis T. Dodds homes. It offers the same compactness and good design, but as extra features it was given an entry, small dinette and second bedroom. Closets are unusually good-sized for such a small house. Utility room contains gas-fired winter conditioner and laundry trays. Designed and built by Cee and Eee Construction Co., Chicago.

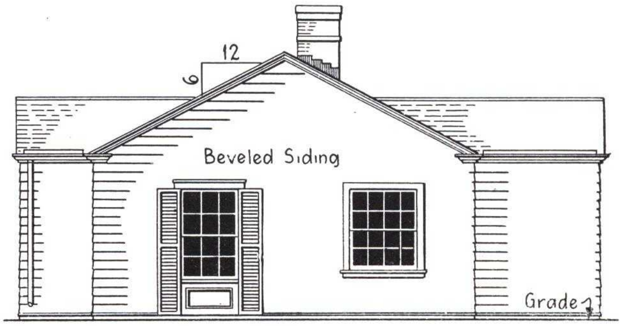


FLOOR PLAN

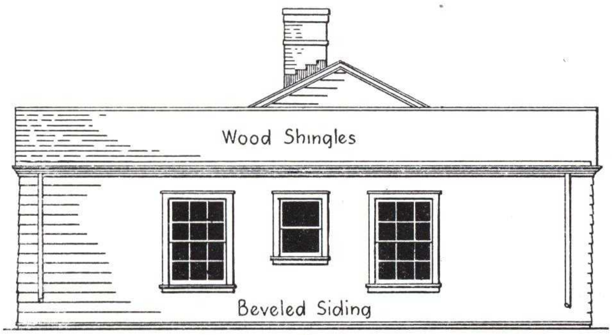
CONSTRUCTION OUTLINE

FOUNDATION: Poured concrete footing and foundation extending below frost line.
EXTERIOR: Celotex Vapor-seal sheathing on frame with red cedar siding painted white on exterior walls.
ROOF: Red cedar shingles.
INTERIOR FINISH: Three-coat plaster over U.S.G. Rocklath, reflective type.
FLOORS: Oak, except Armstrong linoleum in kitchen and bath.
PLUMBING FIXTURES: Kohler, in kitchen and bath.
HEATING: Janitrol gas-fired winter air conditioning.
HARDWARE: Yale & Towne.
LIGHTING FIXTURES: Framberg fixtures in Colonial designs.

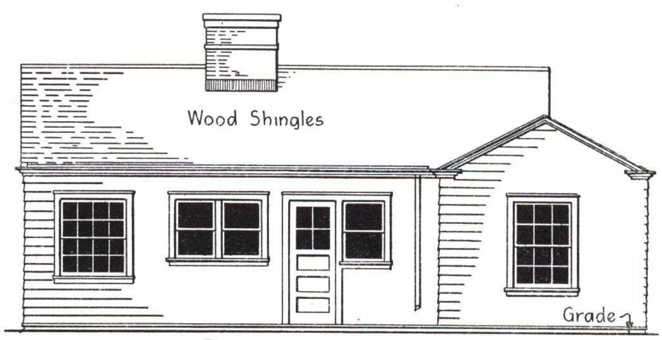
FRONT ELEVATION



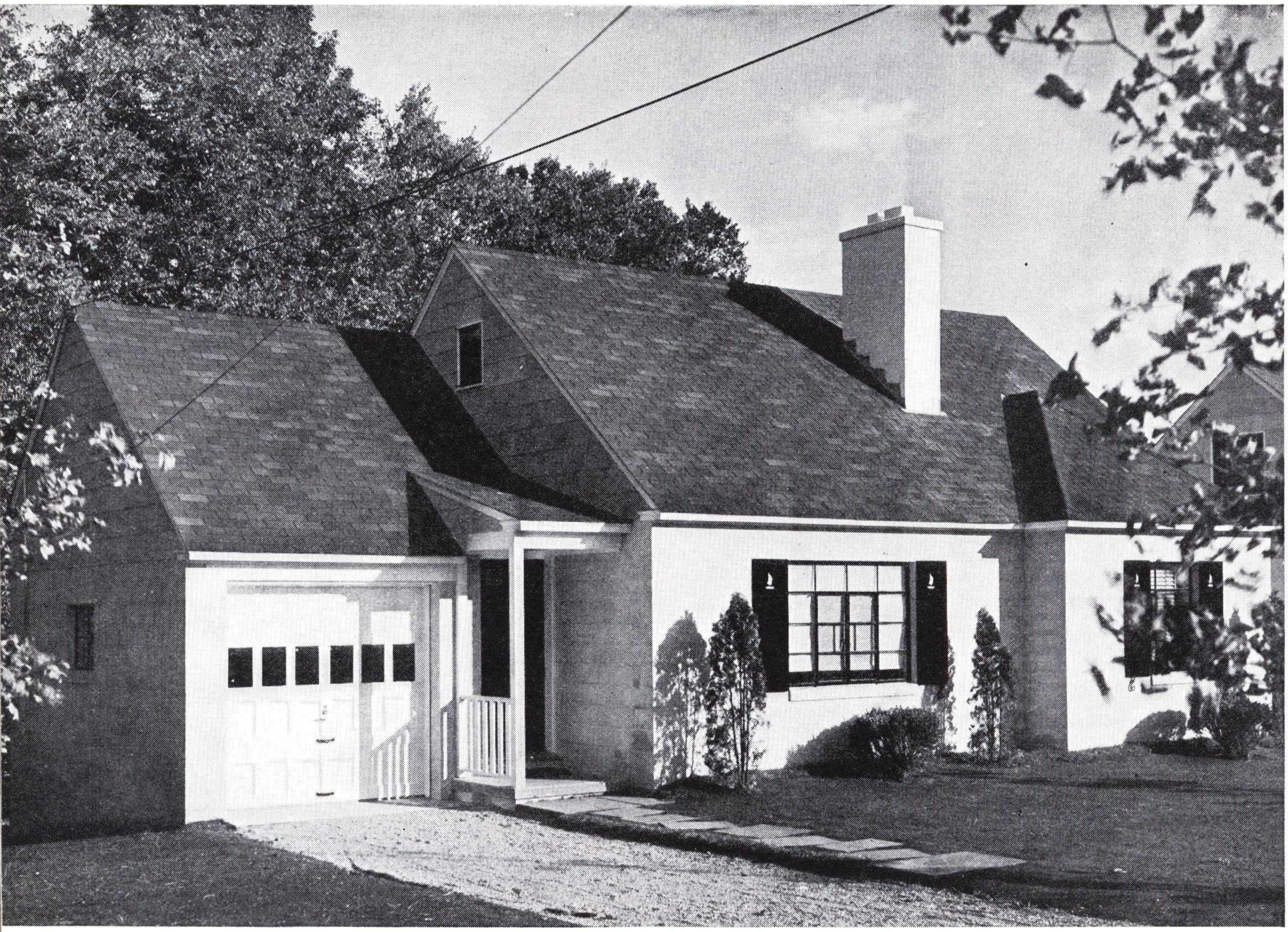
RIGHT ELEVATION



LEFT ELEVATION



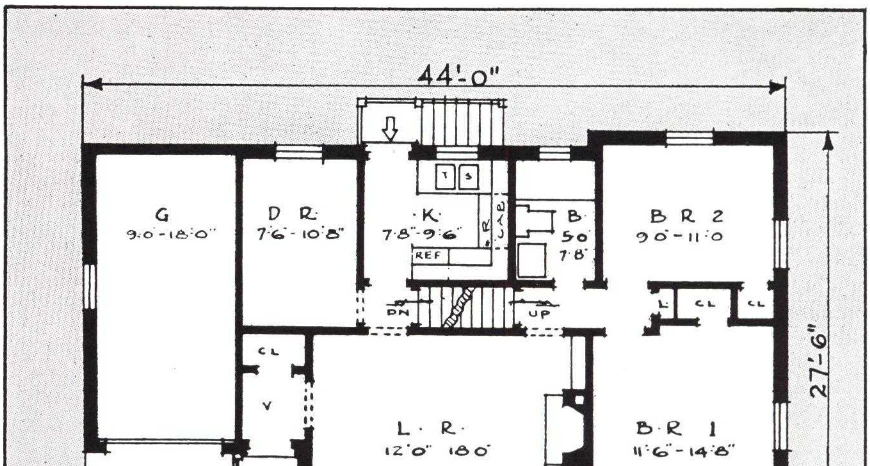
REAR ELEVATION



BUILT TO LAST FOR A LIFETIME

PERMANENT MATERIALS, including both concrete walls and floors are prominent selling arguments used by Builder John W. Fries in connection with his Alden Estates houses. One of the most popular is illustrated above, featuring a large living room, 2 downstairs bedrooms and stairs to the attic where there is space for additional rooms. Exterior wall finish is white portland cement paint.

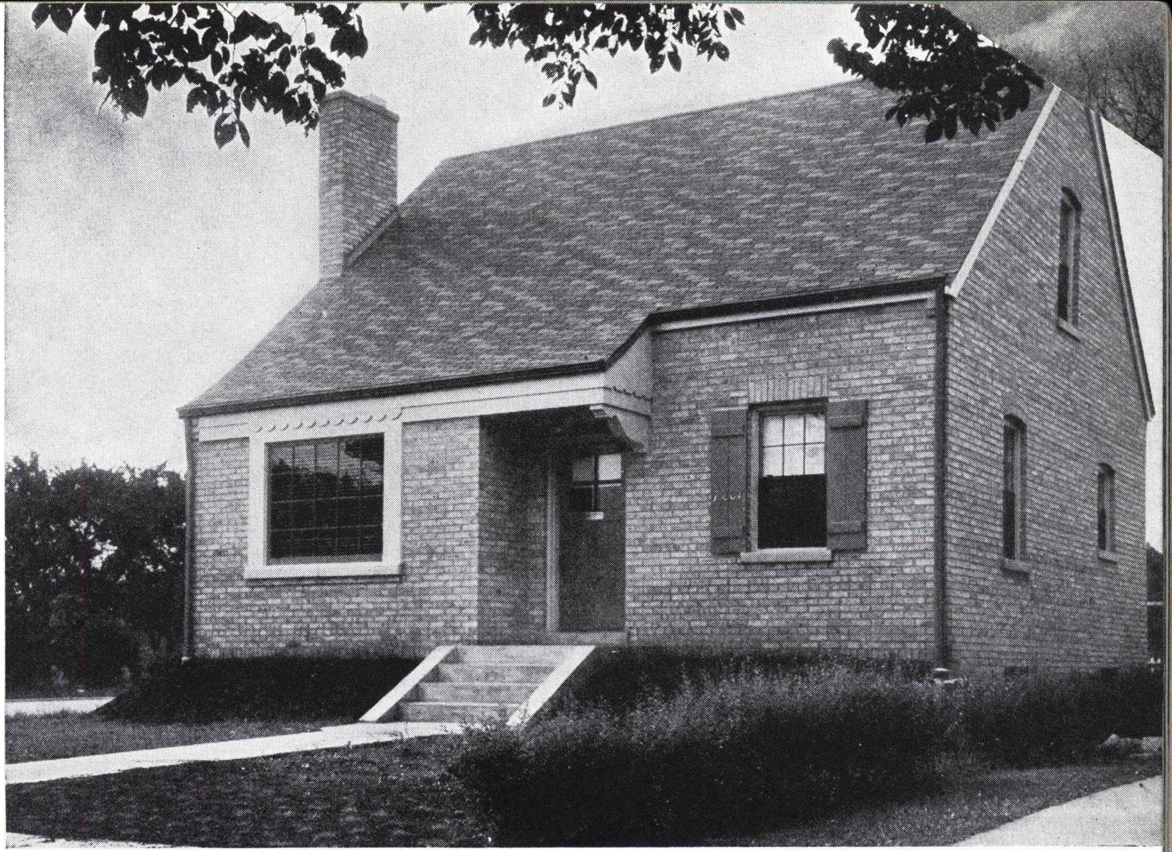
AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 176



A PRACTICAL PLAN with excellent circulation. Kitchen arrangement is good, featuring a "U"-shaped efficiency plan. Attic and basement stairs are incorporated with a minimum of waste space. Garage is convenient.

A FEATURE of this Chicago home is its unique heating plant. The forced hot water system is built around a Capitol hand-fired, coal-burning boiler equipped with a Bell & Gossett booster pump and draft fan attachment. Thermostatically controlled, this combination offers many of the advantages of automatic heating. Radiators are the Young concealed type with an air circulating fan built into each unit and operated by the forced water flow. The system furnishes year 'round domestic hot water supply at low cost and the constant fire also can be used to burn household rubbish.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 176

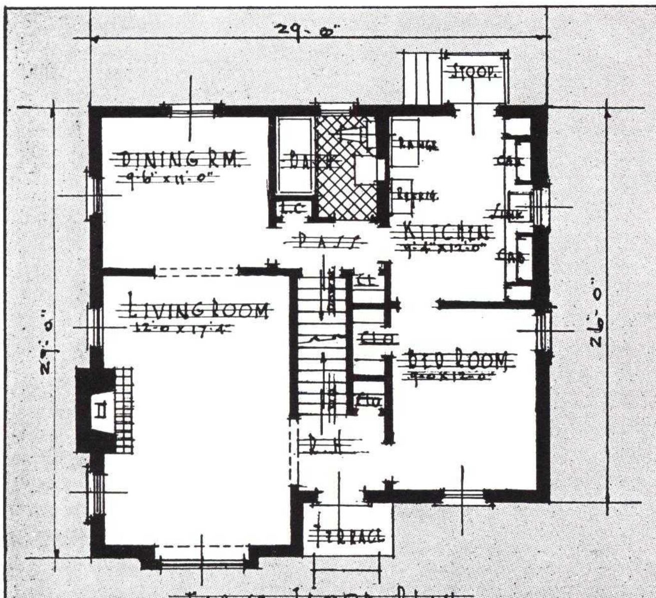


Well Planned 6-Room Colonial for City Lot

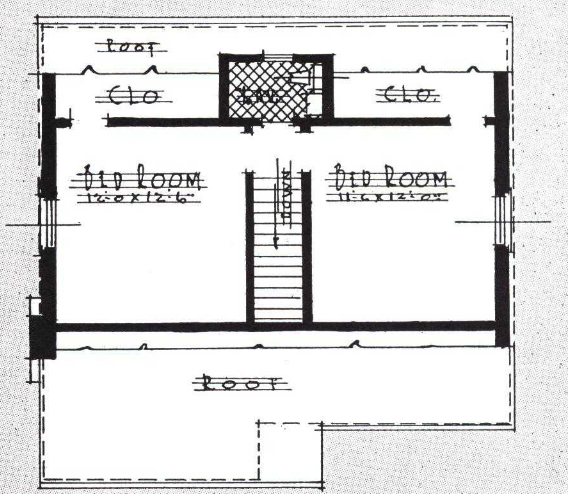
Designed and Built by McCabe Construction Co. Located in Chicago

COMPACT enough to be placed on a lot as narrow as 40 feet, this 6-room house offers livability far beyond its apparent size. An additional advantage of the plan is the possibility of leaving the second floor either partly or entirely unfinished if one bedroom is sufficient for immediate needs. The first floor has four handy closets, additional built-in kitchen cabinet space and good circulation throughout.

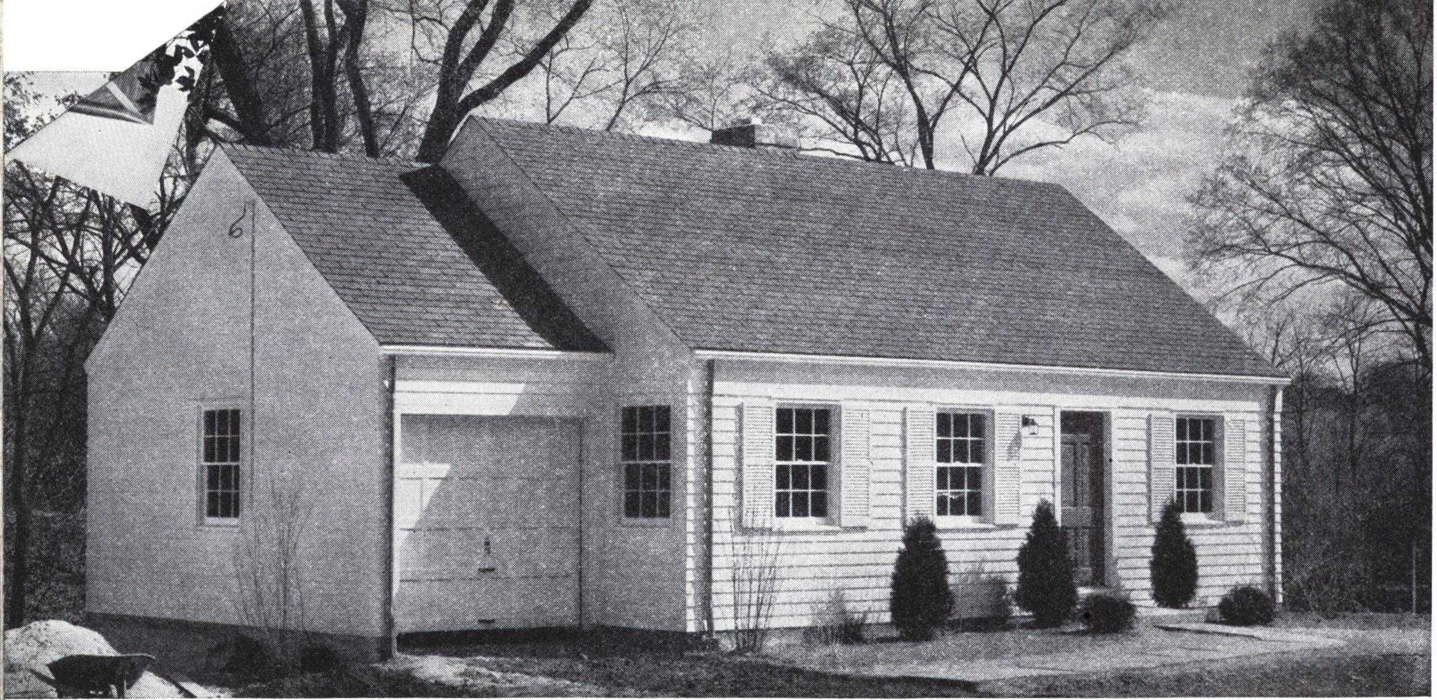
The exterior finish is select common brick with asphalt shake shingles on the roof. Windows have double-hung wood sash; a large muntined window assures plenty of light in the living room and other first floor rooms receive unobstructed light from front or rear. Gutters and downspouts are of Armco sheet metal. Interior wall finish consists of 3-coat plaster on U.S.G. Rocklath furred over the solid brick walls. Mineral wool insulation is used over ceilings. Floors are dark stained red oak except Armstrong linoleum in kitchen and ceramic tile in bath.



FIRST FLOOR PLAN



SECOND FLOOR PLAN



FULLY INSULATED, electrically equipped small home built near White Plains by County Homes, Inc.

Dry-Wall Homes for $43.85 Per Month

David Swope, Son of G-E Head, Enters Low-Cost Home Field in Expensive Westchester County, N. Y., with Quality Small Houses

MODERN G-E UNIT KITCHEN is equipped with General Electric cabinets, dishwasher, range, garbage-disposal sink and refrigerator.

WESTCHESTER County, N. Y., has long been noted for its expensive homes and high building costs. A remarkable change in practice is indicated, therefore, by the fact that a half dozen low-priced home developments have been started there in the past few months. One of the most noteworthy is Fulton Park, a residential community within walking distance of the center of White Plains, built by County Homes, Inc., of which Everett Jacobs is president and David Swope vice president and treasurer. Fifteen homes were under construction early in April and orders for more than this number had been placed by buyers in the few weeks that the project had been open to the public.

It will come as interesting news to many builders that they have a new recruit to their "fraternity" in the person of David Swope, the young son of the president of General Electric. David Swope has made it clear that it is his purpose to create a business of his own along lines of his own choosing—and he has picked the low-cost home field. Building operations are managed by Samuel Keeler, and the houses are designed by Victor Civkin, New York architect.

David Swope and his associates in County Homes, Inc., have made a thorough study of small home construction. Swope has been a thorough student of various scientific developments in home construction and built a house of his own near Ossining, in which he put to a practical test his ideas. He reports that he has been an *American Builder* reader for some years.

One of the outstanding features of the Fulton Park homes is the use of plywood exclusively for interior walls. Plaster is completely eliminated, making possible more rapid and satisfactory construction, with future plaster cracks eliminated. An effective system has been devised for treating the joints so that the plywood walls may be painted or papered without revealing the point where the panels join. The plywood is both glued and nailed to the studs at these points to give a good job.

MODERN TOUCH is given this low-cost home without sacrificing its practical plan, which is the reverse of house on opposite page.

The construction program has also been worked out in a systematic manner with small crews specializing in each important operation. Enough houses are under construction at one time to permit the development of considerable efficiency and a consequent lowering of construction costs.

Good products with big names are part of the County Homes plan. Their advertising and their houses feature G-E wiring, refrigeration, heating and kitchen equipment. Other products extensively featured are Johns-Manville insulation and siding; Anaconda copper for pipe and flashing; American Radiator Company concealed radiation; Sargent hardware; Pittsburgh Plate Glass Company paint; Standard Sanitary bathroom fixtures, valves and plumbing; U. S. Gypsum roofing; Armstrong linoleum. Upward acting garage doors are by McKee Door Company of Chicago, Ill.

A good feature of the design is the dining room-kitchen layout as indicated on the plan below. The kitchens feature the General Electric unit kitchen, using standardized sections including cabinets, electric range, dishwasher, refrigerator and Disposall sink. Selection of all of these items of equipment is optional with the home owner, but the builders stress the fact that for an extra cost of only $1.75 per month on the amortized mortgage, the home owner can have the complete, modern electric equipment that does much to make for better living.

The Fulton Park houses are located on 60 x 100 foot lots in an attractive community within easy walking distance of the center of White Plains. The fact that they can be purchased on the FHA plan for $43.85 makes them highly desirable in competition with the local high-priced rents.

ON THE JOB, with 15 houses under construction. From left to right, Sydney M. Rogers; Samuel Keller, builder; Everett Jacobs, president; and David Swope, vice-president and treasurer, County Homes, Inc.

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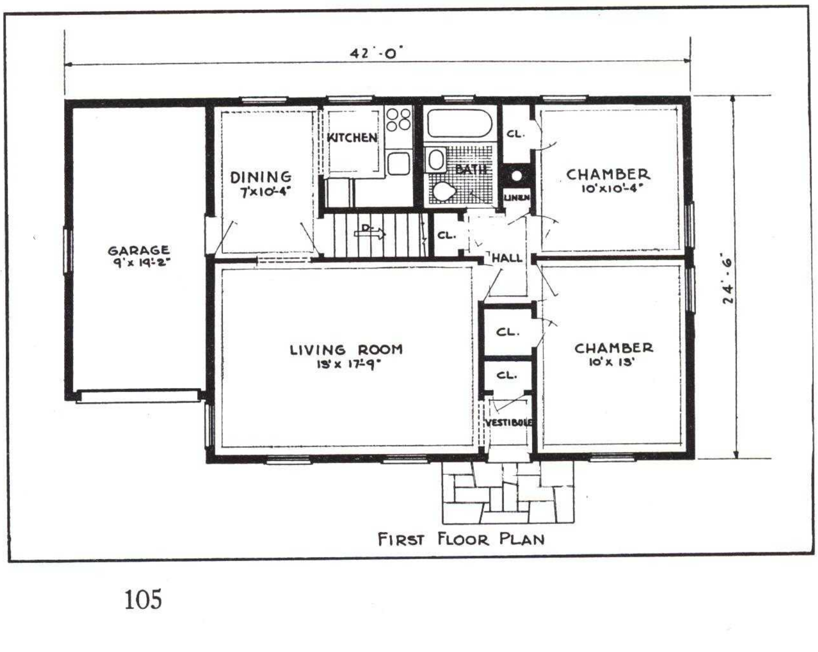
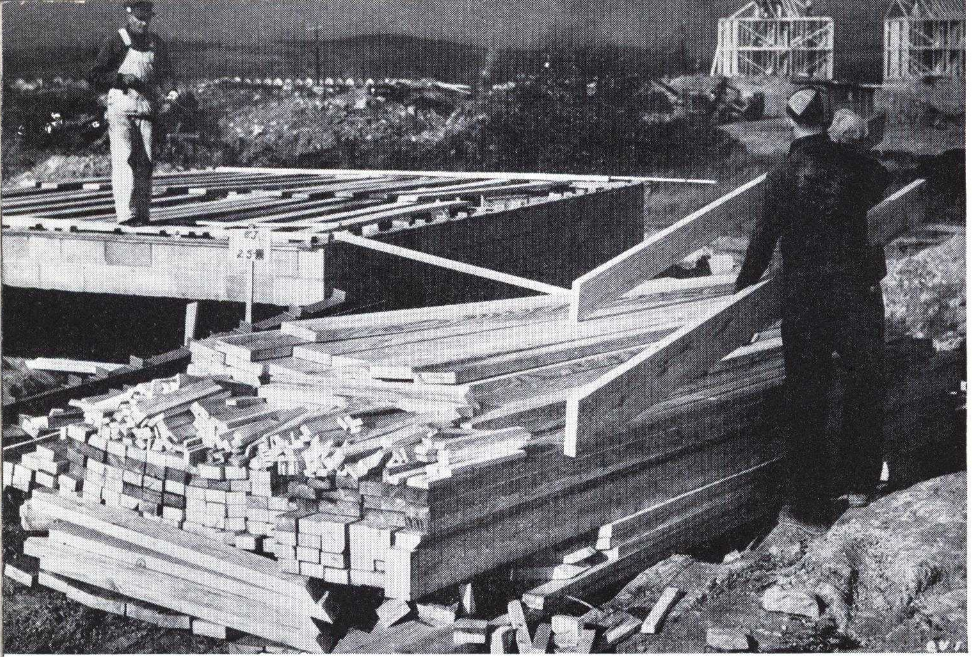
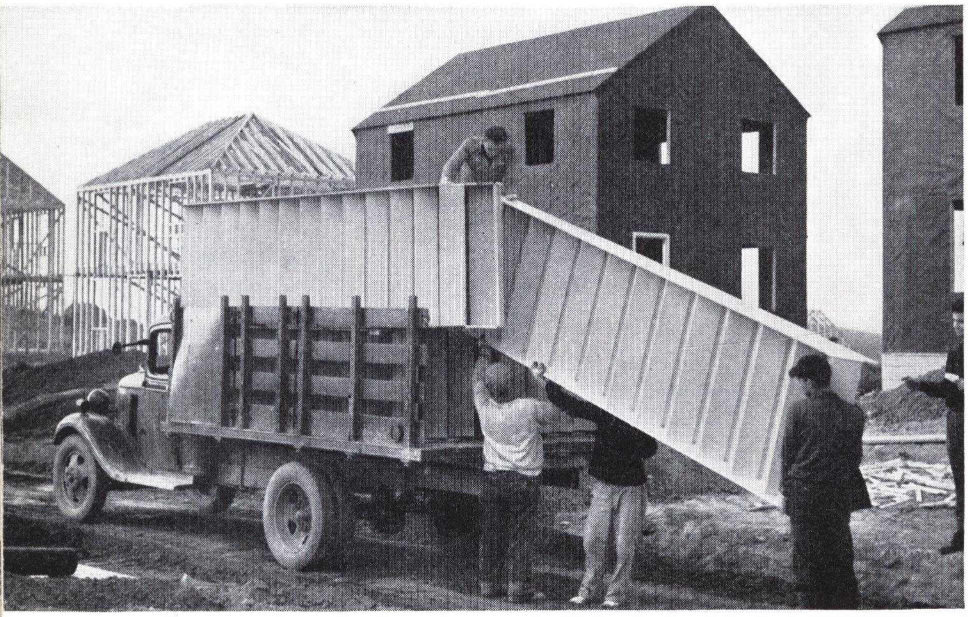
TYPICAL FLOOR PLAN shows unusually fine planning, with large living room, 2 good bedrooms and an efficient dining room-kitchen. The architect is Victor Civkin of New York.





Precut Lumber

FIG. I—ALL OF THE LUMBER on the Gilbert and Varker houses is precut on a power saw and delivered, according to an exacting production schedule, by truck. In the photograph at left you see a truckload including the complete framing material, which has just been delivered. This is piled in the truck in the correct order for use on the house. All notching, angle cuts, rafters, bridging and other cutting has been done and the material is ready for quick erection on each house.



Factory-Built Stairs

FIG. II—LABOR TIME on the job is saved in the Gilbert and Varker houses by use of lightweight steel stairs, both for first and second floors. These have a factory finish of enamel, have linoleum treads, and can be installed in a fraction of the time it takes to build stairs by hand; supplied by Overly Mfg. Co. of Greensburg, Pa.

By J. B. MASON

Mass Production Methods at Clairton

Engineers Adapt Large Job Methods to Small Home Building in 1,200-House Project. Use Factory Fabricated Stairs, Windows, Trim, Precut Lumber

"OUR biggest job is production, not construction," Royce W. Gilbert, president of the firm of Gilbert and Varker, told me as we tramped over the 540-acre site of what will be one of the largest industrial home projects in the world.

He pointed out that as engineers he and his partner, William M. Varker, had developed mass production technique on this 1,200-house development for Carnegie-Illinois steel workers calling for the smooth flow of materials from many sources to the job and the houses.

As told in the December *American Builder,* the Gilbert and Varker houses are being constructed under Section 210 of the Federal Housing Act, financed by a large insurance company, and can be either rented or sold to the workers in the steel mills of the Pittsburgh area. Details of the use of plywood for sheathing and interior walls was described.

Long accustomed to large-scale engineering projects, Gilbert and Varker have spent many years perfecting a technique of mass production for low cost houses. Plans, materials and equipment are not only detailed with the minutest care in advance but materials are charted through the entire course of the operation and followed by expert checkers. With 150 truckloads of materials a day going into the site, every item is checked and double-checked according to the elaborate schedule.

Engineering precision is another drastic demand of this firm. Because so many of the products are prefabri-

New Materials, New Methods and Skillful Engineering Technique Make Gilbert and Varker Home Project at Clairton, Pa., Significant to Builders. "Our Biggest Job is Production, Not Construction," Says Royce W. Gilbert

cated in advance, every opening and dimension must be accurate to a fraction of an inch. The blueprints show the exact location in fractions of an inch of every water pipe and every fixture. A smart but simple idea has been devised to insure accuracy—a steel sill plate and ribbon with welded tabs which locate and automatically space studding at exactly the right points. In effect these act as a template for the entire house (for details see page 82, Dec. *American Builder)*.

Getting off to an efficient start, Gilbert and Varker place the concrete basement floor and foundation in one operation. This means that floor and foundation are one monolithic unit, and the return of the concrete crew, after the house is built, for a second trip to put in the basement floor is eliminated (see Fig. III). A $3\frac{1}{2}$-inch shelf rises above the floor, upon which the basement wall tile are laid. It is necessary for the plumbers to be the first crew on the job after the excavation is completed.

Basement walls are built of Speedlock hollow tile, 8 by 8 by 16 inches, supplied by National Fireproofing Co. These are lightweight and have a handy grip which makes for rapid laying. A waterproofing of one coat of Koppers' asphalt paint is applied to the outside.

A sheet-steel termite shield is placed upon the top of the foundation, and over this the metal sill plate with cemented stud spacer tabs applied. It is set in mortar and bolted in place (see Fig. IV).

Important in the operations of Gilbert and Varker is the precutting of all lumber. A power saw and woodworker has been set up at the point of delivery of lumber. When the foundation for one of the houses is ready, the complete framing material, including bridging is cut, loaded on a truck and delivered as shown on Fig. I. When

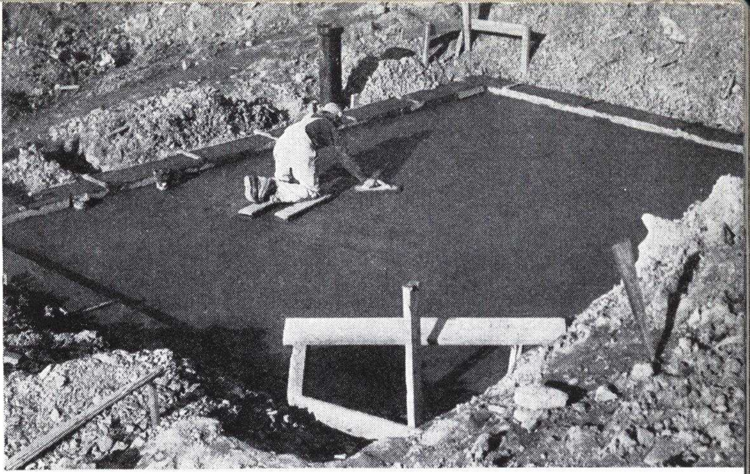


FIG. III—ONE PIECE FLOOR AND FOUNDATION—The monolithic concrete floor and footing with a $3\frac{1}{2}$-in. raised edge are poured in one operation, thus eliminating a second return of the concrete crew. Plumbing and sewage pipes have to be laid before pouring is done.

FIG. IV—HANDY GRIP, LIGHTWEIGHT TERRA COTTA TILES are laid up rapidly and a metal termite shield applied. Steel sill with welded stud spacer is then bolted to foundation in a bed of mortar.

FIG. VI—COLORED PORCELAIN ENAMEL STEEL CORNERBOARD made by Ingram-Richardson Mfg. Co., is used for exterior trim. This is delivered to job in standard lengths requiring no cutting. Note nailing flange to take the shingles.

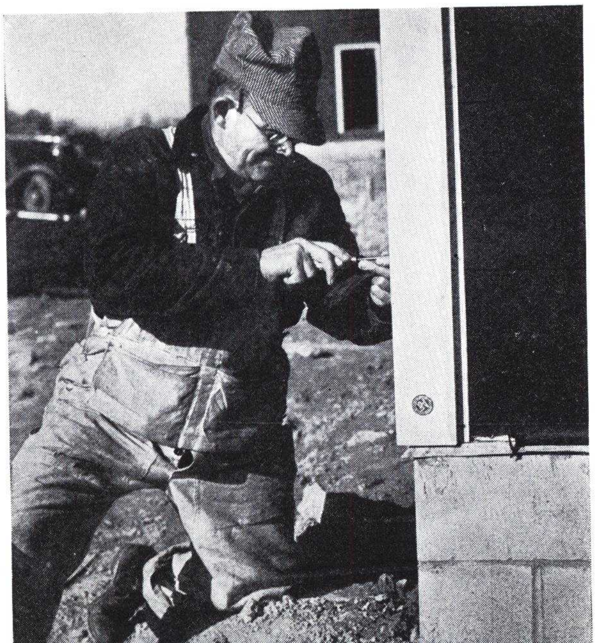


FIG. V—EXTERIOR DETAILS (below) include metal cornice and trim, well caulked; transite chimney; cement asbestos shingles laid over lapped strips of 40-lb. roofing felt as can be seen in this picture.

FIG. VII—PREFABRICATED METAL DOOR HOOD of colored porcelain enamel steel is quickly set into place by workmen on Clairton home. Seven standard entrance hoods as well as shutters were fabricated for these houses by Porcelain Metals Corp., Louisville, Ky.

FIG. VIII—SELF-FLASHING STEEL WINDOWS with porcelain enamel exterior and interior trim attached are here shown being nailed in place. They are delivered by Michael Flynn Co., completely assembled, including screens, hardware and glass and ready to be set in.

FIG. IX—CONCEALED COPPER FIN RADIATORS are installed (below). Insulation consists of sheet steel forced between the studs.

unloaded from the truck it is piled so that the pieces first needed are on top. A braced balloon-type construction with 4 by 4 corner posts is used. The corner posts as well as the studding two stories in height are notched out on the power saw. After floor joists and bridging have been placed and the corner posts put up, the first item erected is the steel ribbon with stud spacers (see Fig. X). From this point on, studding and other framing members are quickly handed up and nailed into place. The writer observed the completion of a roof in which the rafters had been precut on the power saw and can testify to the remarkable speed and accuracy with which the members were assembled.

As the houses reach various stages of construction, the foreman reports to the order department, and materials needed in the next stage are delivered to the site. They are checked in at the gate and the sizes, colors and other details rechecked by telephone against the plans in the job office.

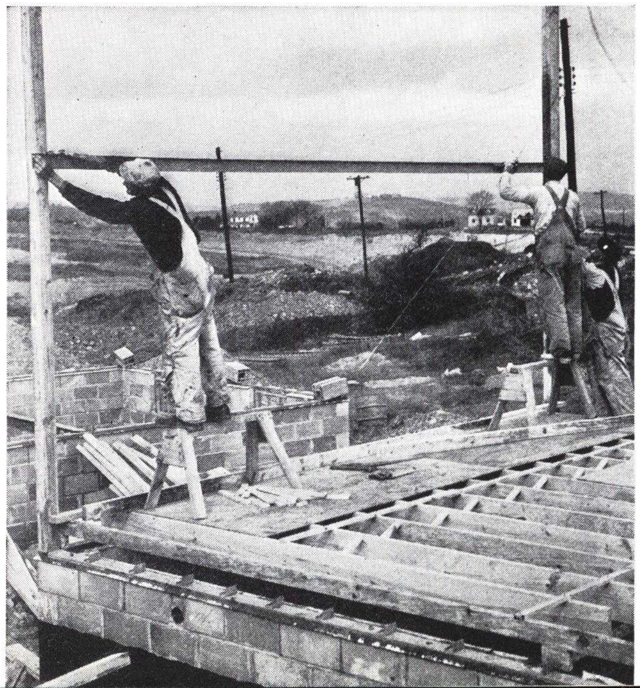
Steel windows on the Clariton project come to the job completely assembled with both interior and exterior porcelain enamel trim applied. The trim comes in attractive colors blending with well-worked out color schemes. The windows, manufactured by Michael Flynn Company of Philadelphia, are supplied with a 2 x 4 wood enclosure, as detailed on page 110, which is easily toe-nailed to adjacent studding.

Door bucks, both interior and exterior, are also of steel and are complete with porcelain enamel trim and half-section butts welded to the frame. They are manufactured by Overly Manufacturing Company, Greensburg, Pa. Stock wood doors are supplied by Wheeler Osgood Company.

As part of the standardized plan of construction, Gilbert and Varker are using porcelain enamel exterior shutters, corner boards, rake pieces and cornices in a variety of attractive colors. They also use porcelain enamel hoods over the front doors (see Figs. VI and VII).

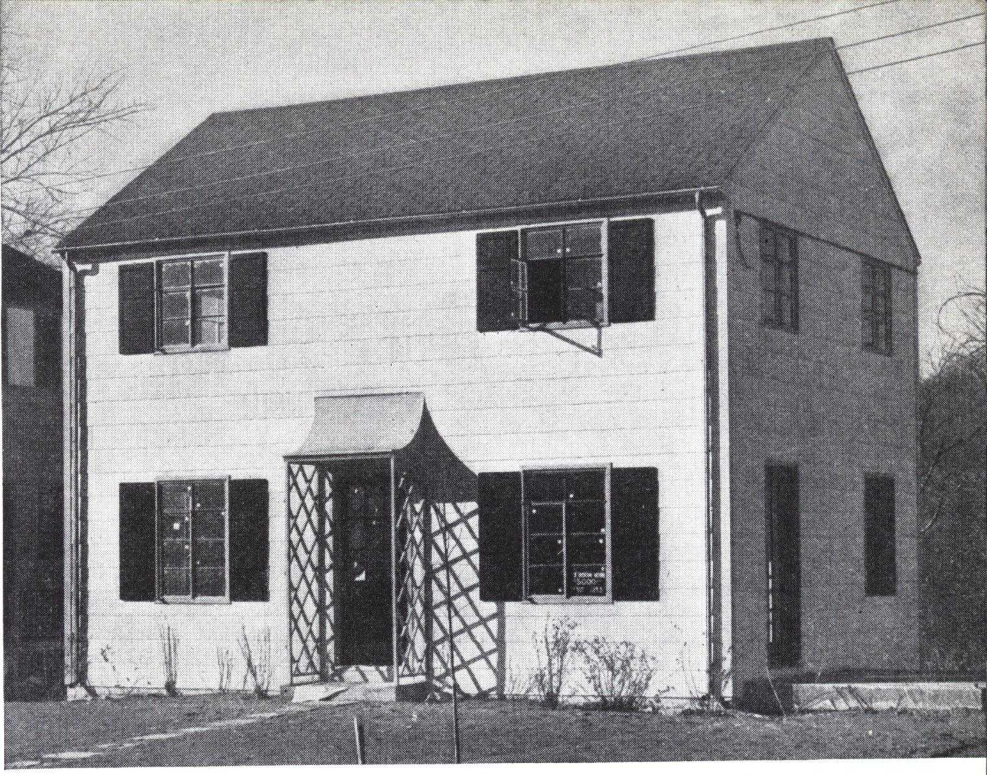
The corner pieces are 4 by 4-inch angles made of 18-gauge U. S. Steel Vitrenamel stock, enameled in white, grey, light blue or blue-green.

FIG. X—FIRST STEP IN FRAMING is erection of 4 x 4 corner posts into which steel ribbon with stud spacers is notched and nailed. Steel ribbon and sill act as templates, insuring exact dimensions so that precut lumber and prefabricated steel units will fit in place exactly.

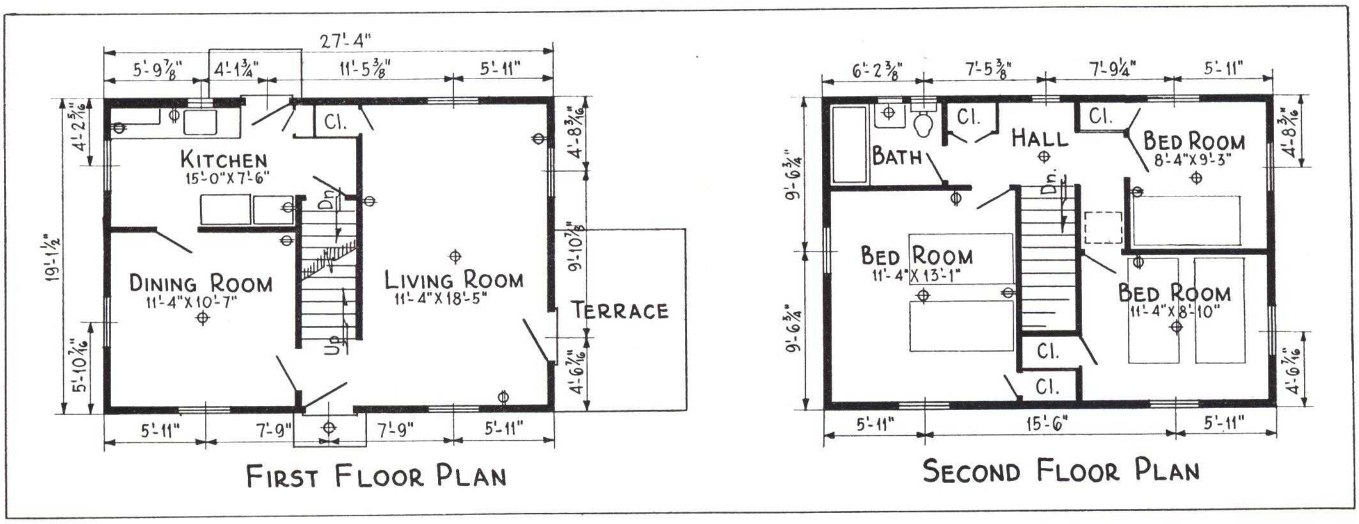


Cost-Reducing Planning and Construction

IN THIS Design Section, homes which feature added value through scientific planning, use of materials, or advanced construction methods are shown and described. Such houses as these will be important in the mass market of 1939.



TYPICAL 6-ROOM COLONIAL built by Gilbert and Varker at Clairton, Pa., with a center hall stairs, 11½′ x 18½′ living room, 3 bedrooms and bath.



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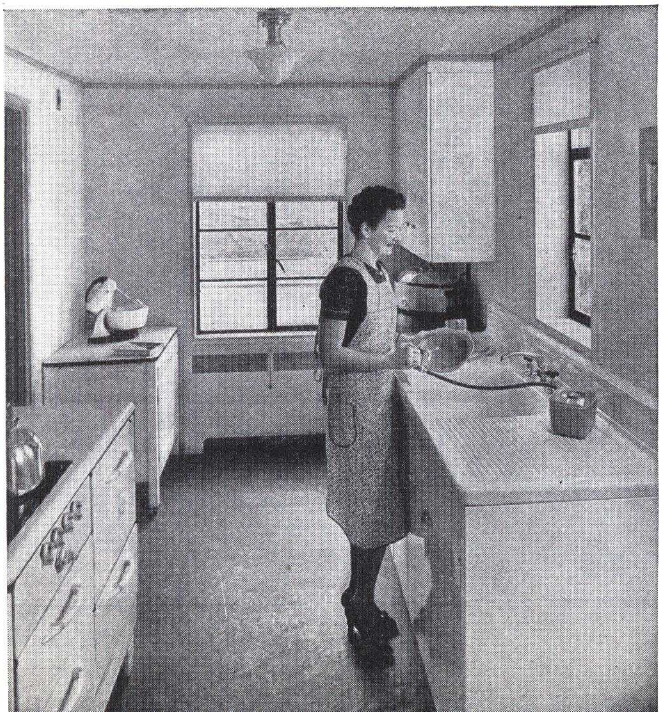
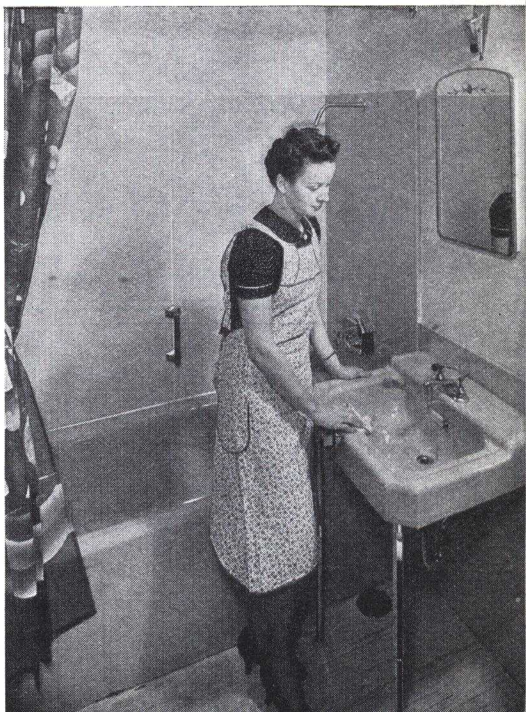
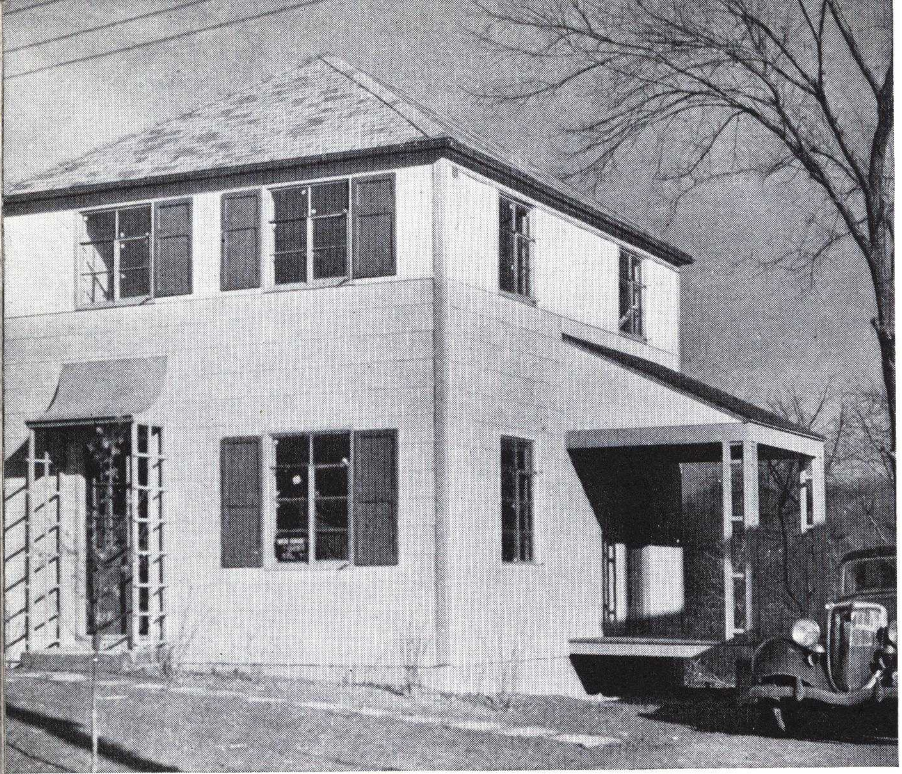
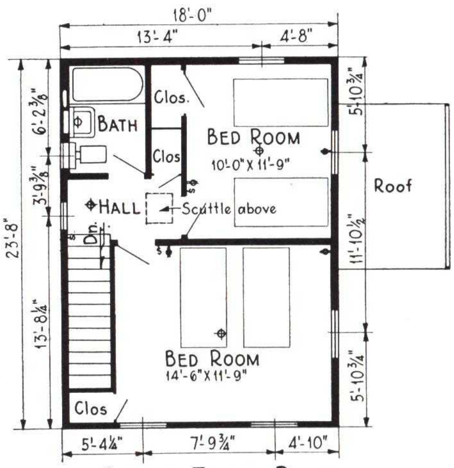
RIGHT: Kitchens feature porcelain-enamel steel cabinet sink and kitchen cabinet, gas stove, linoleum floor and concealed copper fin-type of radiation.

IN BATH, 18-gauge colored enamel steel panels are used on walls, along with enameled pressed steel tub and lavatory in very decorative and attractive colors.

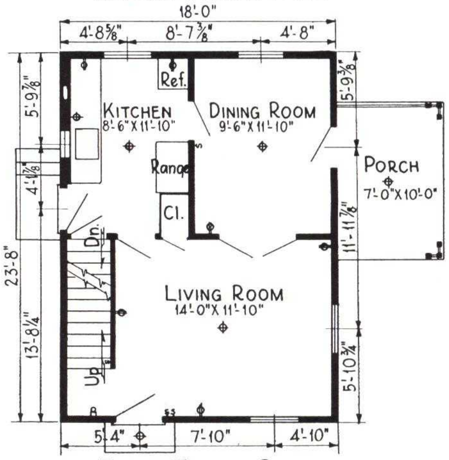








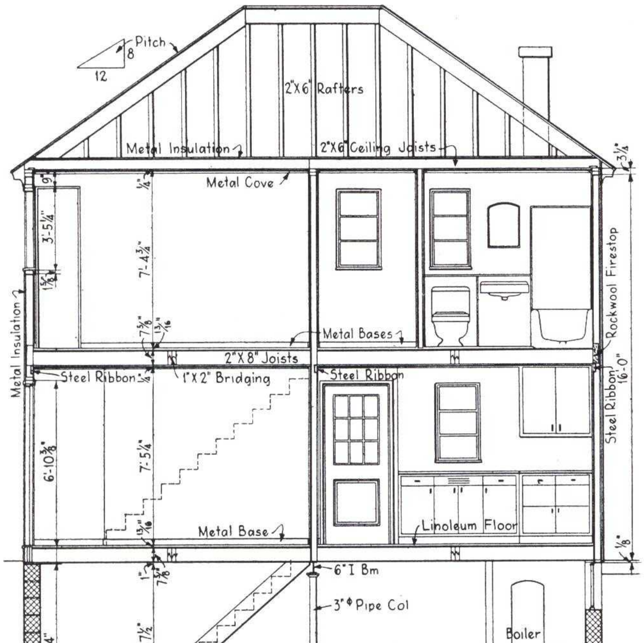
SECOND FLOOR PLAN



FIRST FLOOR PLAN

Gilbert & Varker 5-Room House

THIS 5-room Gilbert and Varker house at Clairton, Pa., has an overall size of 18′ x 23′ 8″ as seen in plans at right. The balance of this article on the preceding four pages gives other particulars on this unique development which has attracted nation-wide interest.



CROSS SECTION

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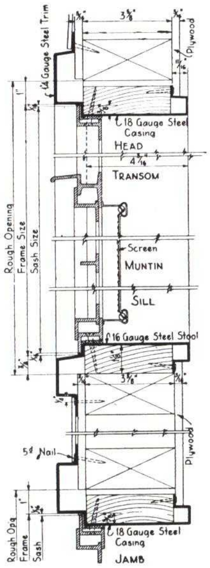
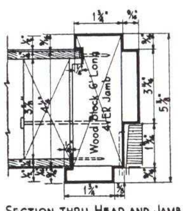
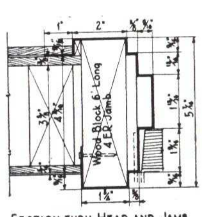
GILBERT AND VARKER HOUSES are detailed with engineering precision down to the location of all pipes, flues and equipment. Shown here are details of the steel door bucks and prefabricated windows with metal trim. Cross section at left shows steel stairs, closets and location of steel ribbons and sill plates.



WINDOW DETAILS



SECTION THRU HEAD AND JAMB DOOR BUCK AND TRIM For 3⅝" Stud Partition



SECTION THRU HEAD AND JAMB BUCK AND TRIM FOR EXTERIOR DOORS For 3⅝" Stud Partition

ONE of the compact, 4-room basementless houses typical of the group in H & B Corporation development.

Low Cost Home in High Class Westchester

Haring & Blumenthal of Scarsdale, N.Y., Successfully Pioneer Unusual Project

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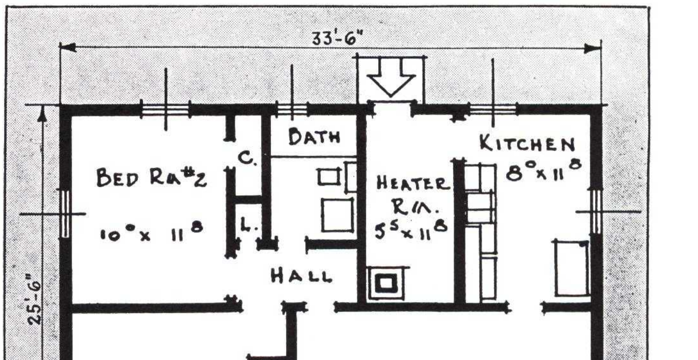
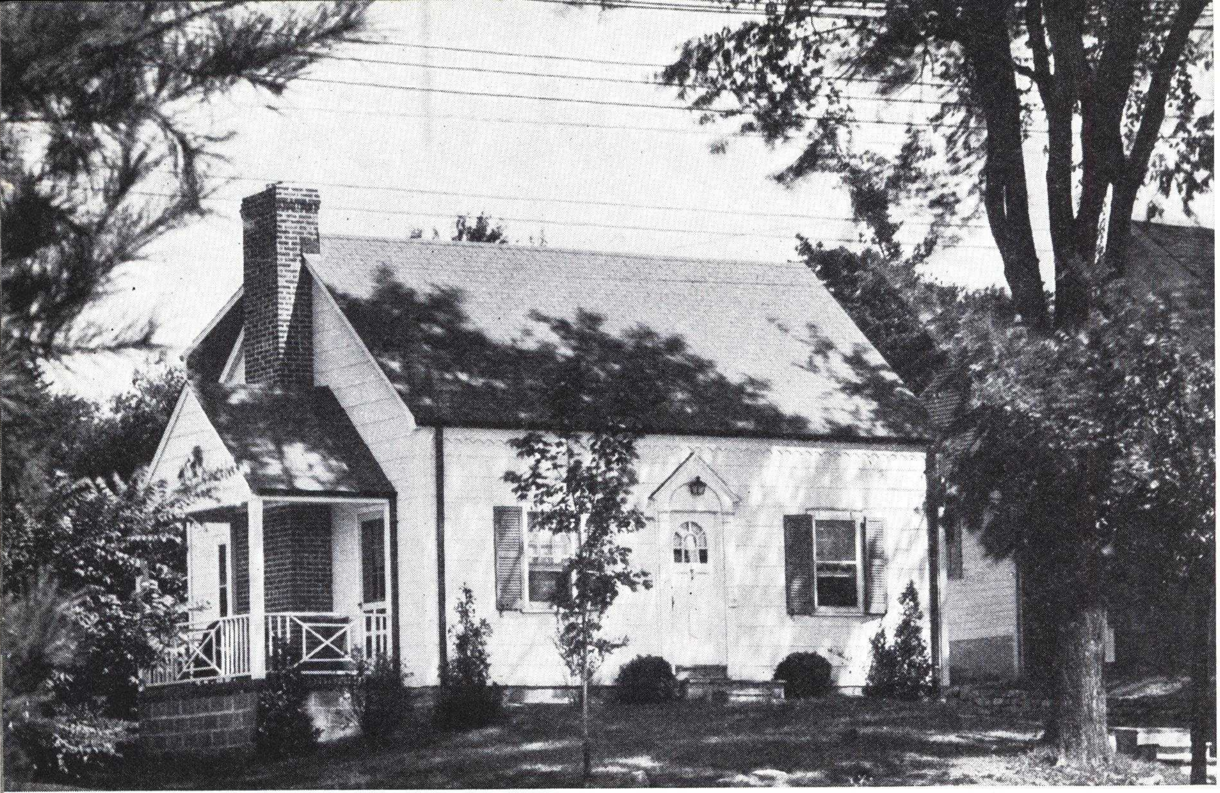
IN planning the "Cottage Homes" developments in Westchester, Haring & Blumenthal found that it would be necessary to purchase land in "B" locations, since land costs necessarily had to be limited to 10% of the selling price—or $500. Such a location was found on Leffingwell Place in New Rochelle, and eight houses were put into production, to sell for $5,000.

A careful study showed that the only promise of success for such a project at so low a sales price would be to steal a page from the book of production-line manufacturing. Since he could not build the houses in a factory he brought the factory-perfected methods to the building site. The plans were not just drawn—they were engineered. Walls and ceilings were finished in Rezited plywood panels in Douglas fir and mahogany. Stud and joist locations were laid out with the panel width as a module. Plumbing, heating and electrical installations were detailed and the mechanics trained to repeat their operations from building to building. The position of every opening was keyed to the wall panelling, as also were the heating and electrical outlets. Rather than attempt to conceal the joints in the plywood interior finish these joints were featured architecturally as small V-joints in conservative wall panel designs and decorative ceilings. All joints were solidly backed by the framing and sealed with a flexible compound to allow for a little expansion and contraction. All inside corners were closed with mouldings.

In the past ten years Haring & Blumenthal have built over 800 one-family homes in the New York Metropolitan area.





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CHARM, beauty, comfort are outstanding in this little home—"The Lee" —designed and built by Lee Perry, Architect.

LEE PERRY, president, County Housing Corp.

$40,000 Quality in a $6,000 House

Lee Perry, Architect Who Turned Builder, Tells How He Makes Good Design, Quality Materials Sell Homes in the Low-Priced Field

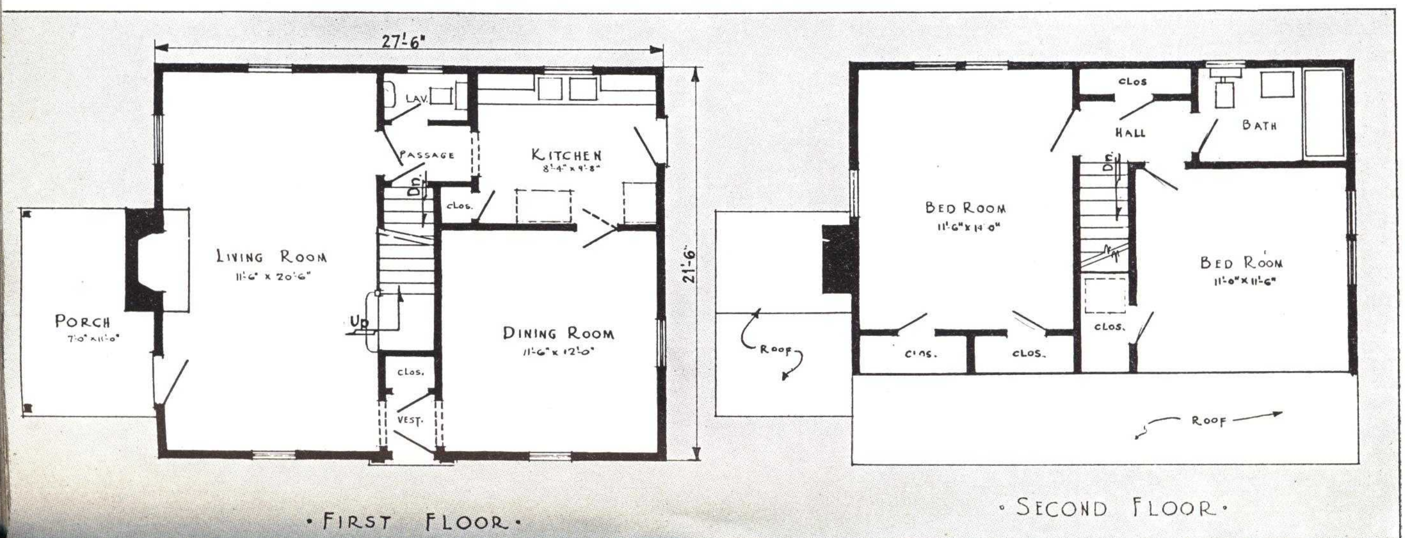
LEE PERRY is an architect who turned builder to prove that quality design and quality construction could be brought successfully into the low-cost field. In his Westminster Ridge development near White Plains, N.Y., he is building charming homes in a well-planned community, ranging from $5,800 to $8,500. These homes are as well designed, laid out and built as any $40,000 home, including such quality features as Bryant gas-fired winter air conditioning, Johns-Manville Rockwool bat insulation, Curtis Silentite windows with Mitertite trim, Lightolier fixtures and brass pipe.

The houses are also of dry wall construction, the interior walls consisting of half-inch insulating board in large sheets as the base for wallpaper. Exteriors are largely of weather resisting cement-asbestos shingles.

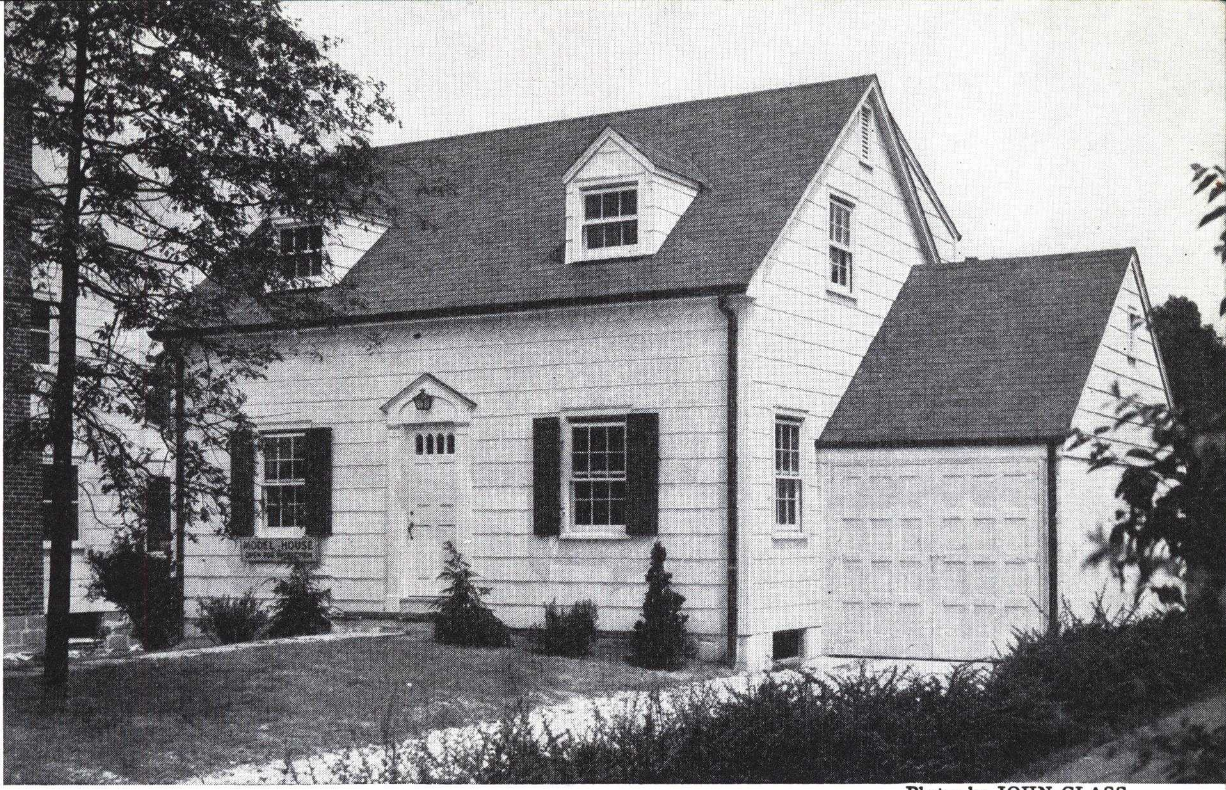
Mr. Perry is an architect with more than 15 years experience in which he has designed and built many large and expensive homes. At Westminster Ridge he is demonstrating that the same quality of planning, workmanship and construction can be brought to the low-cost field.

On September 1 when an *American Builder* editor visited the development, 41 houses had been built or were under construction, with sales running well ahead of completed houses. Work on the first houses started

FLOOR PLANS of "The Lee" provide fine exposure, ample rooms, a downstairs lavatory, ample closets.



AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 177



"THE GREENFIELD", 5-room house at Westminster Ridge, with appealing architectural style. Exterior is of asbestos-cement shingles.

Photos by JOHN GLASS

last February, so that, considering the "recession," the record is good.

Perry believes that as an architect he is in a strategic position to serve his customers well. He can sketch a plan while talking, and can talk with a sound and authoritative knowledge to prospective buyers. He is able to study each lot separately and design the house to fit it most economically and attractively. The results at Westminster Ridge show this. The houses are attractive from all angles—an especially important item in a hillside development such as this where frequently the downsite of a house is unsightly and mars the entire development. Perry is a man of ideas and is critical both of architects who fail to acquire a practical knowledge of building and of builders who fail to make adequate allowance in their budget for good architectural advice.

"I became convinced that low-cost housing could be made profitable only when it had received the study and consideration given to the most expensive type of home," he declared.

"I can see no reason why the prospective home owner considering a house worth only $6,000 is not entitled to as much architectural consideration as though he were planning a house costing $40,000.

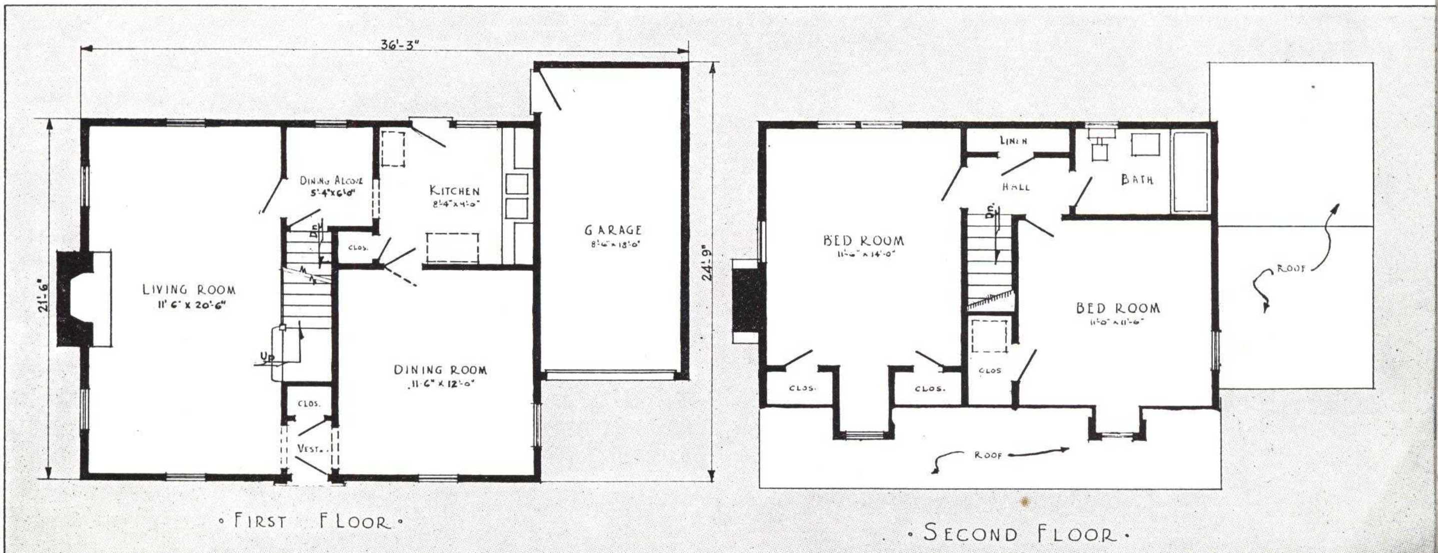
"Coupled with the fact that these basic thoughts are fundamental, it is equally true that most builders are not aware of them. I found the only way I could achieve the results that I desired was to become both architect and builder in one, the results of which would be amazingly different from any of those achieved by others.

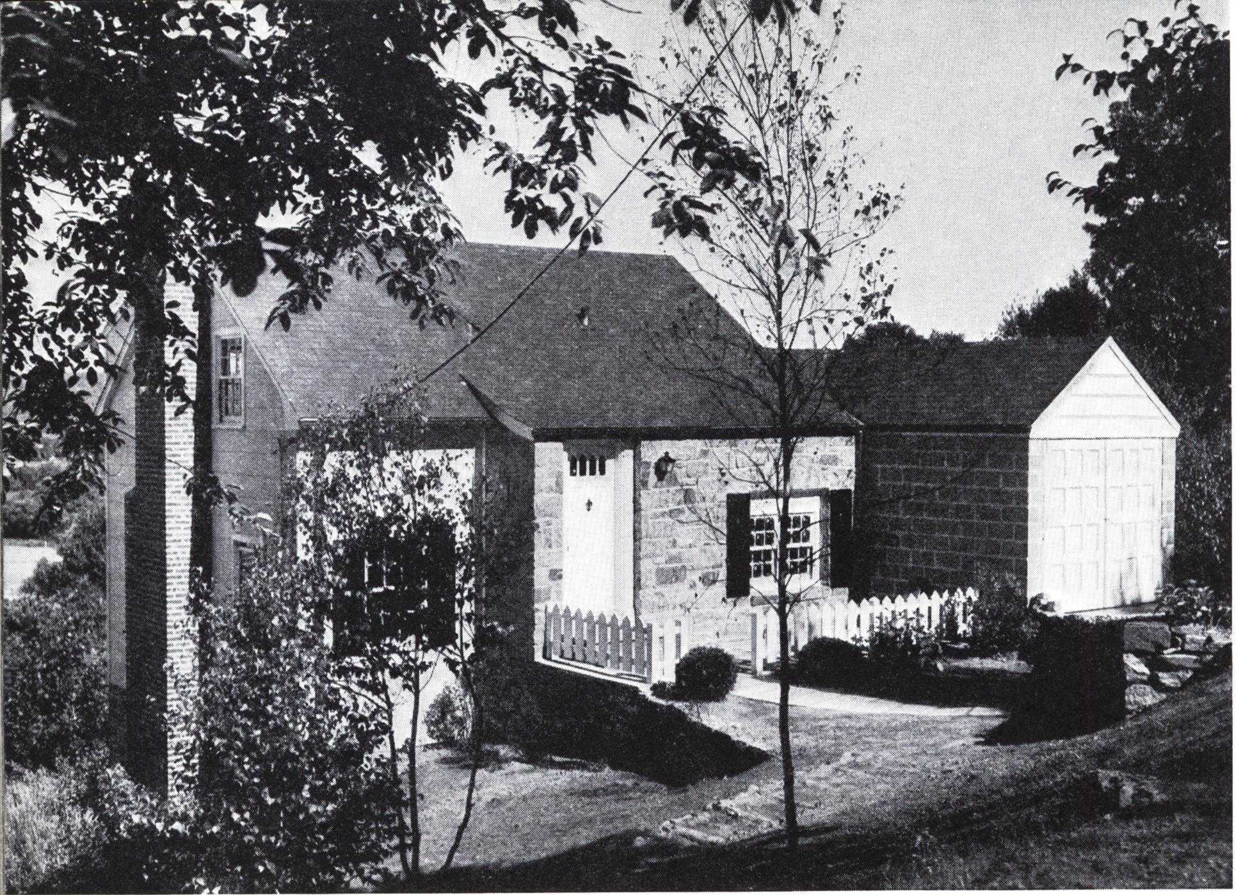
"That I have been justified in my conclusions is evidenced by the remarkable success we are enjoying at Westminster Ridge, White Plains.

"Our aims are simple. Of forty houses erected in six months, each one is different and yet each one can boast of the finest materials nationally advertised, welded together into a plan that has been given considerable thought as to design, orientation, equipment and construction. Most of our sales have been for houses to order and yet each prospect virtually becomes an architectural client, and all of his whims are catered to, however small the house may be.

"Not that I feel that architecture is the all-important phase of development work. My training as an architect forces me to insist upon the full coordination and organization of all the parts that go to make up the whole. Just as the proper cement mixture must be stated in a specification, so the correct form letter must be mailed

FLOOR PLAN of "The Greenfield" includes an 11' 6" x 20' 6" living room also dining alcove, attached garage, well equipped kitchen.





AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 177

"THE WESTMINSTER" is specially designed to fit into the wooded hillside. House has automatic gas heat.

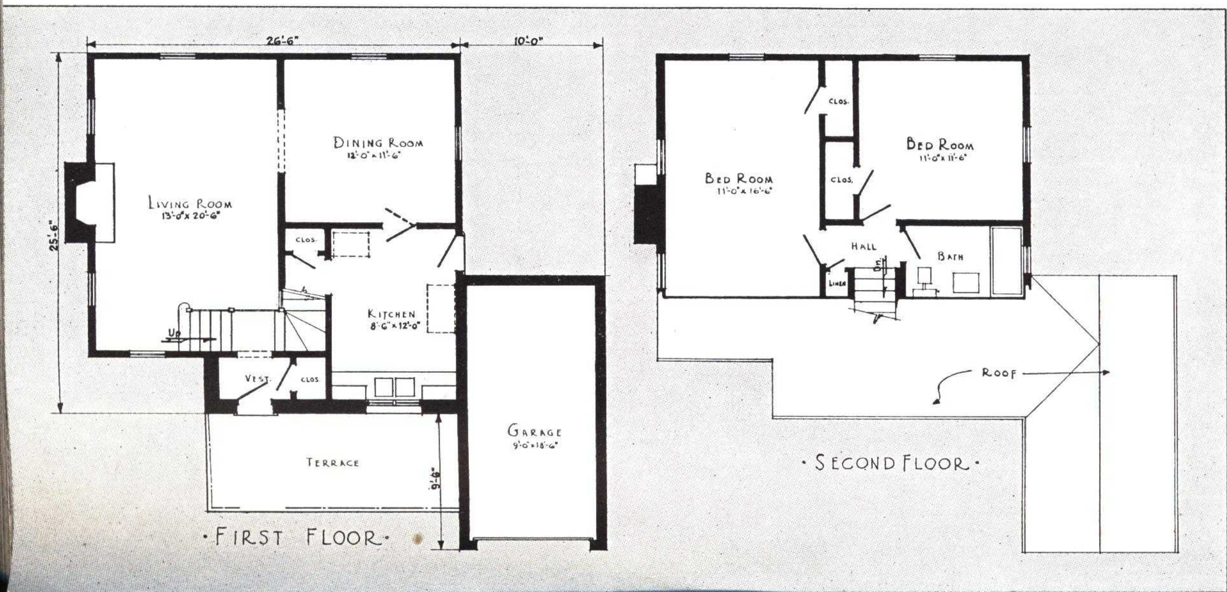
to the prospect. Neglecting the necessary sales promotional work in a development is comparable to the omission of the footings in a building. There can be no compromise in these matters: each has its own importance and must be included in its proper sequence. It is our plan to develop such an organization so that it can function successfully in a sphere that will not be restricted to one location.

"Our program for this year calling for the completion of seventy-five homes in Westminster Ridge, White Plains, and nine in Pleasantville, has thus far been strictly adhered to. I can see no reason why an organization such as ours cannot expand during the coming years to include several developments progressing simultaneously in different communities."

In many ways, the Westminster Ridge houses illustrate the trend towards better-built homes at lower cost that *American Builder* has been publicizing in recent issues. While the price range would not be classed "low-cost" in some parts of the country, in expensive Westchester County it definitely is. Perry's advertising features the fact that these houses can be purchased for as little as $598 cash and $48 per month.

Perry is doing everything possible to make home ownership easy and attractive. The houses are complete in every detail and ready to move into. A small lake and playground are included in the tract, and streets are laid out in sweeping curves adapted to the rolling countryside.

Perry states that he selected automatic gas heat because he felt it would be a valuable sales help inasmuch as most people associate this type of "luxury heating" with more expensive homes. Cost of operation has been carefully worked out and, due to the sound construction and thorough insulation, will be low. An interesting item in connection with the use of the gas heat was the economy made possible in chimney construction. Where there is no fireplace, chimneys consist of a six-inch circular terra cotta flue surrounded by standard 8 by 8 by 16-inch concrete blocks. Only four blocks are required for a course. Space between the blocks and the flue is filled



STEPS lead from the vestibule into the large living room with exposures on three sides. Garage is convenient to road.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 177

"THEWILLIAMSBURG" is of simple design, with an attractive entrance featuring built-in seats. There is a porch at rear.

with cement mortar. The result is a substantial and satisfactory chimney that is economical to build.

An aggressive advertising and promotion campaign is being carried on. In this respect Perry has secured the cooperation of the American Gas Association's Home Appliance Planning Bureau. Two demonstration houses were formally opened to the public September 15, and this was made the occasion for extensive newspaper advertising and promotional literature, financed cooperatively by manufacturers of equipment and materials.

Construction and specification details receive unusual attention for houses in this price class. The following items indicate the extent to which the builder has gone to insure a quality house in the low-price field:

FOUNDATIONS—12-in. concrete blocks, waterproofed.

LUMBER—Well-seasoned, No. 1 quality grade and trademarked.

HEATING—Bryant gas-fired forced air unit, 85,000 B.T.U. input per hr. Minneapolis-Honeywell controls.

HOT WATER—Lovekin and AGP "Dictator" gas-fired hot water heaters.

ELECTRIC DEVICES—Fuse box and electric devices by Metropolitan Devices Corp., Brooklyn.

INSULATION—J-M semi-thick Rockwool bats.

WINDOWS—Curtis Silentite prefit, weatherstripped.

TRIM—Curtis narrow Colonial style Mitertite window and door trim.

ROOF SHINGLES—Johns-Manville asphalt shingles.

COPPER AND BRASS—Revere Brass pipe; copper flashing, eaves and downspouts.

PLUMBING—Standard Sanitary plumbing fixtures, laundry-type kitchen sink, Mueller seat.

LIGHTING FIXTURES—Colonial style lighting fixtures by Lightolier Co.

LINOLEUM—Congoleum linoleum, kitchen and bathroom floors and walls of bathroom.

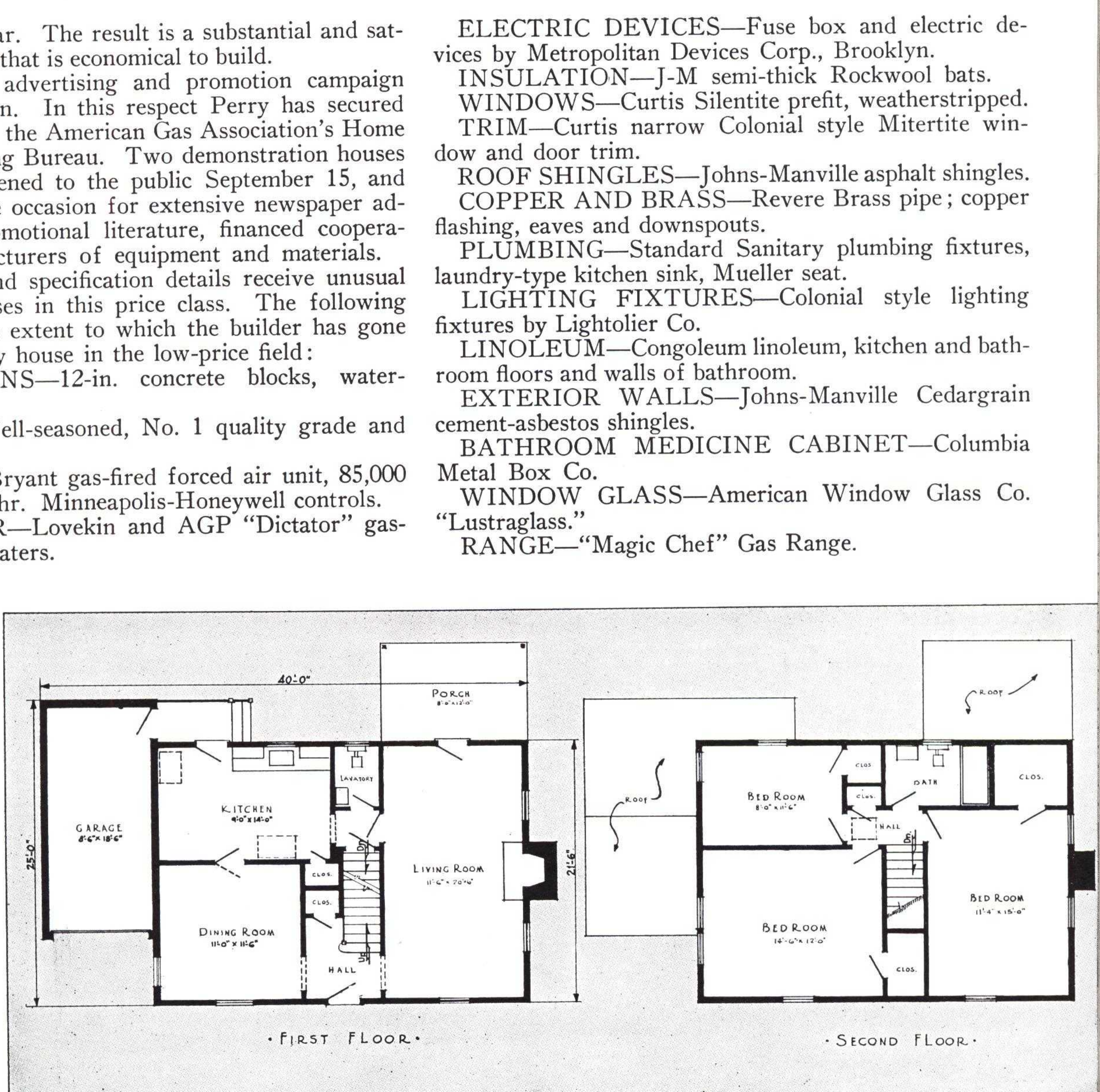
EXTERIOR WALLS—Johns-Manville Cedargrain cement-asbestos shingles.

BATHROOM MEDICINE CABINET—Columbia Metal Box Co.

WINDOW GLASS—American Window Glass Co. "Lustraglass."

RANGE—"Magic Chef" Gas Range.

SIX ROOMS, bath, lavatory and attached garage are included in this plus value plan for "The Williamsburg" house illustrated above, designed and built by Lee Perry at Westminster Ridge, N. Y.



Florida's Largest Low Cost Home Development Meets with Immediate Success

Miami Builder's Sales Boom with Project Announcement Before Construction Starts. Mass Methods Assure Buyer's Extra Value

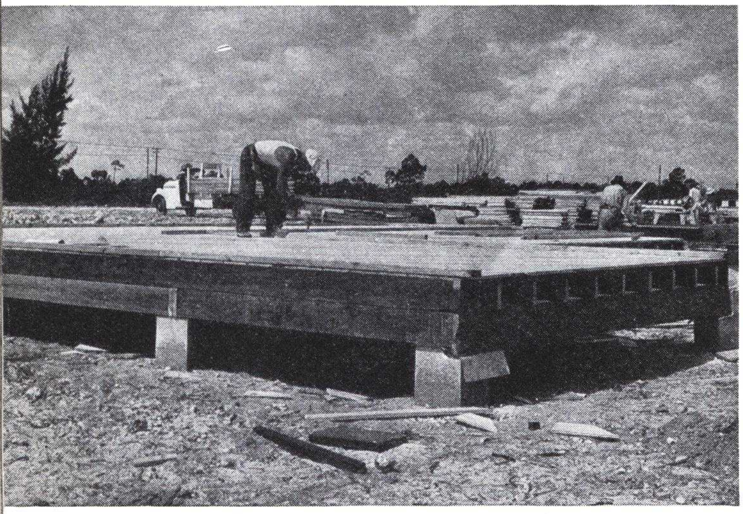
ABOVE, left to right: H. B. Schoolfield, V.P., Biscayne Improvement Corp.; E. J. Robbins, FHA; W. G. Welbon, Pres.; F. C. Hilson, FHA; H. D. Steward, FHA; Lester F. Preu, Secy., and builder.

THE Lester F. Preu Organization of Miami Beach, Fla., was in 1938 engaged in one of the most interesting low-cost home developments to be found in the country. The project is the result of a consultation with the local FHA office late this spring when it was pointed out that the area was badly in need of homes in the minimum price bracket. The enterprising Preu firm has built over 500 structures in the past 4½ years.

Suitable plans and specifications for a house which could be bought for $16.80 a month including interest, amortization of loan, taxes and insurance over a loan period of 24 years were turned out in record time and approved by the local FHA. A subdivision in a very good location on the edge of the city, consisting of 300 full sized lots 50 x 106 feet, had meanwhile been acquired.

The project was now ready for public announcement, which was made in the Sunday newspaper of July 10. Immediately the rush to buy these houses was on—*25 of them were sold that same day, with the first day of work at the site not scheduled until the following Monday.* The first house was completed in 19 days and at that time 24 houses were under construction and approximately 45 had been sold. About two weeks later, production had been set for the completion of two houses a day; approximately 200 men were employed to turn them out.

The houses are all built to one standard plan, having enough variation through different trim, bright colors and exterior details to give a block of striking and attractive homes. Many short-cut methods of construction have been evolved using jigs, templates, electric power tools, and by having certain crews for each operation. To mention just two of these saving methods, one was the use of a mechanical paint sprayer to prime all siding trim, etc., on the site before application, and a second, the use of pre-cast concrete steps leading up to the porch.



AMERICAN BUILDER
TruCost FIGURES
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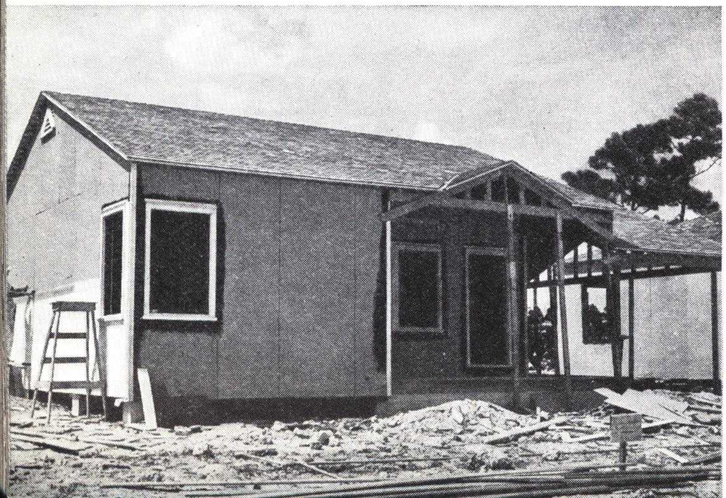
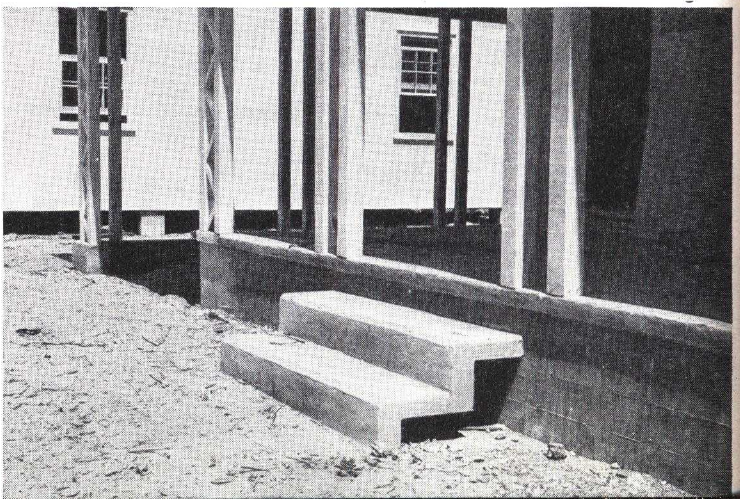
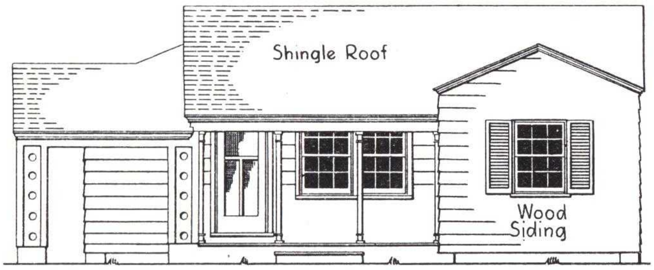
LEFT: Views of the Biscayne Improvement Corporation's 300 low-cost homes project showing mass production methods including the use of pre-cast steps as seen below.

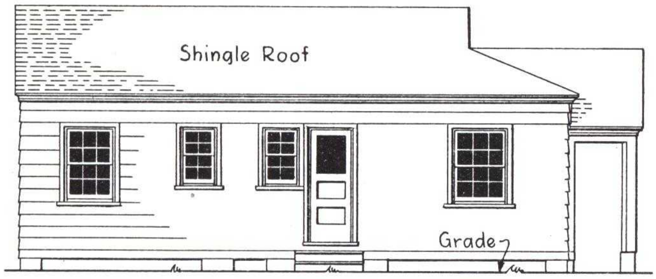




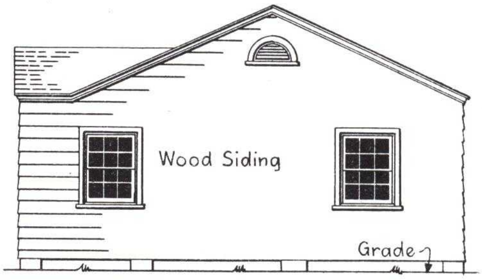


FRONT ELEVATION

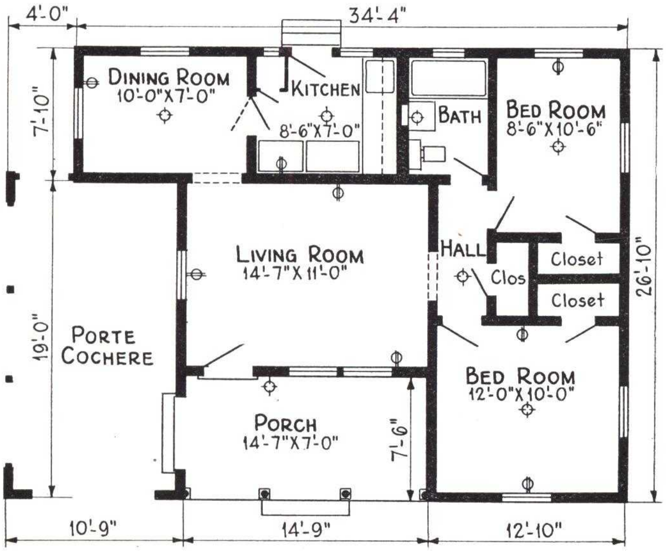
LEFT SIDE ELEVATION



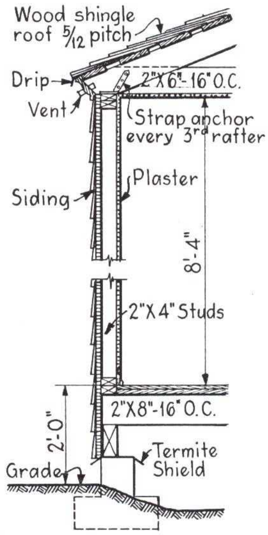
REAR ELEVATION



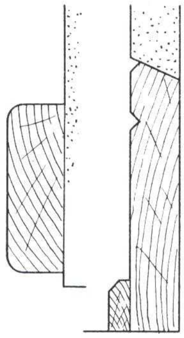
RIGHT SIDE ELEVATION



FLOOR PLAN

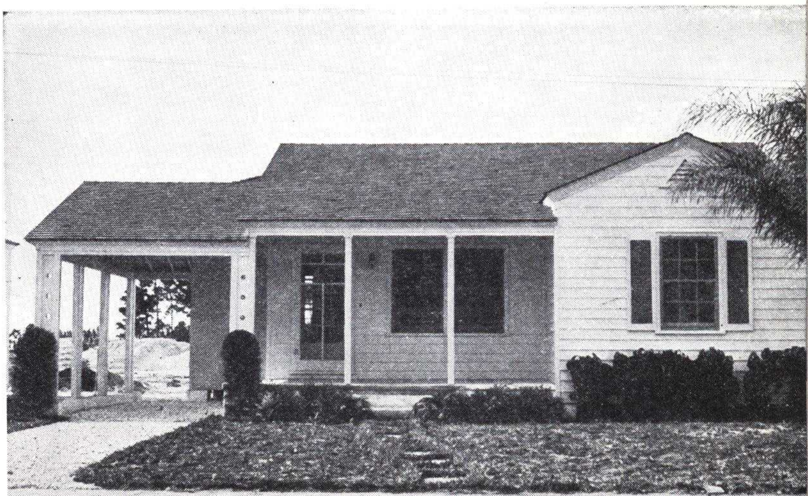


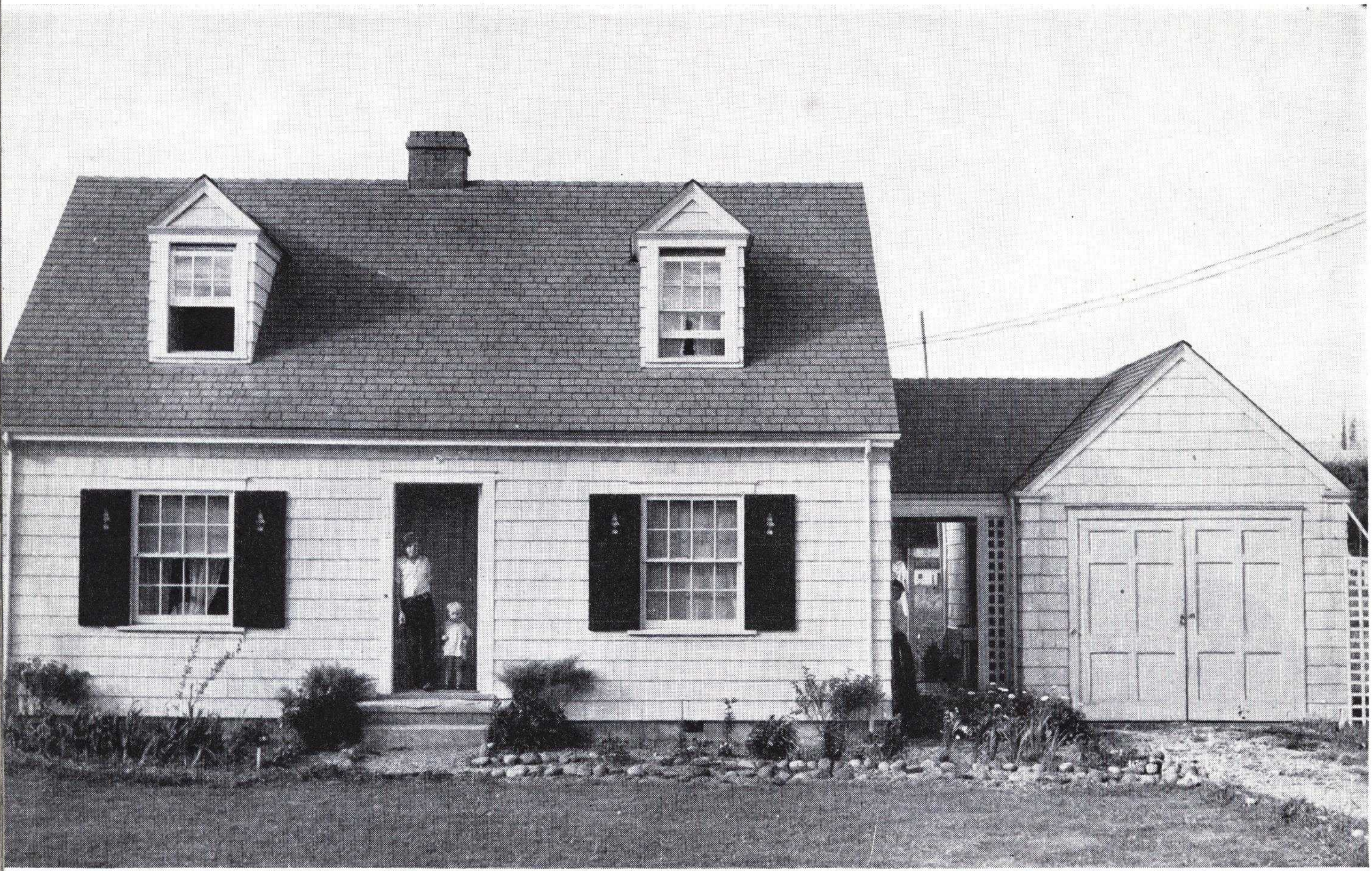
TYPICAL WALL SECTION

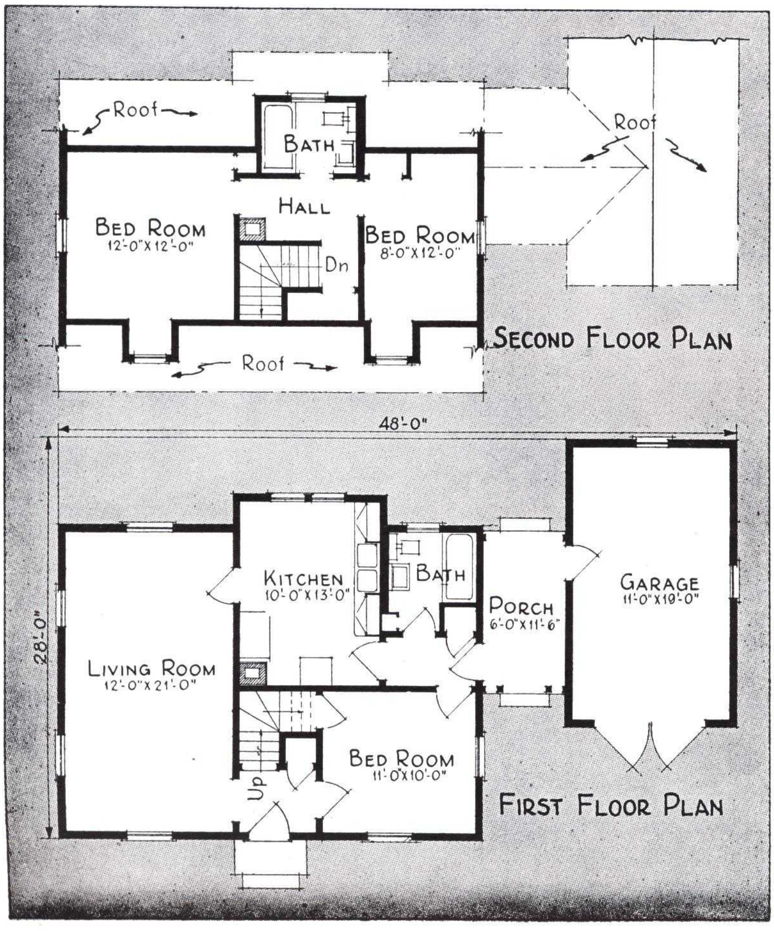


DETAIL OF BASE AND TRIM

ABOVE: Elevations, standard floor plan and details of a typical house in the Biscayne Improvement Corporation's project in Miami, Florida. Room arrangement is very compact and efficient; closet and cabinet space is generous for this type of house. Below: Variations in color and detail give an attractive appearance to a street of these homes which are built to the above plan; close-up of one is seen at right.







BUILT FOR LUMBER WORKERS

BUILT for lumbermen, near Longview, Wash., this compact little house would appeal to many a more prosperous American citizen. In a cubage of only 13,500 cu. ft., space is provided for 3 bedrooms and 2 baths. The second story may be left unfinished at start for economy. Kitchen and bathroom plumbing is economically grouped. The attached garage is attractive. The first floor bedroom could be used as an office or dining room or for an invalid "in-law."

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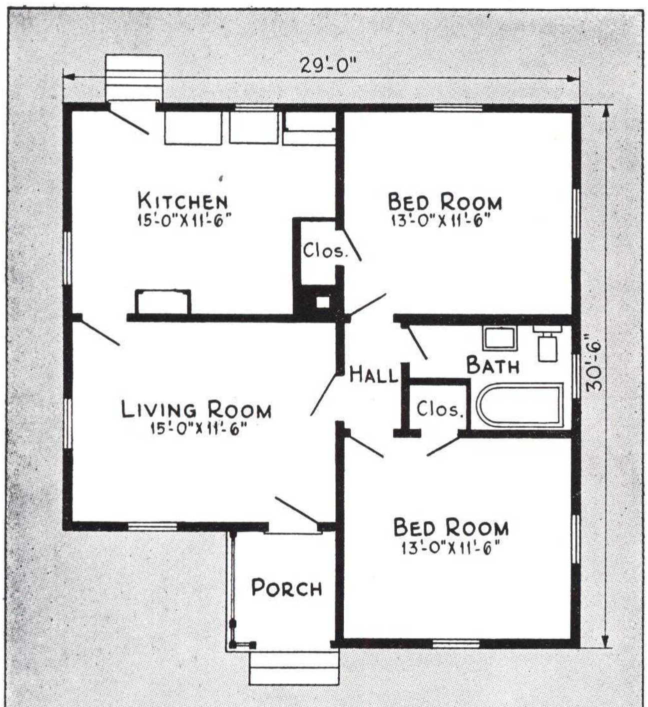
THIS is one of 60 Resettlement Administration homes in the Longview project, each located on about 2 acres of land. The project is managed by a nonprofit community association and financed over a long term of years. Average income of families is $1,000.



FLOOR PLAN

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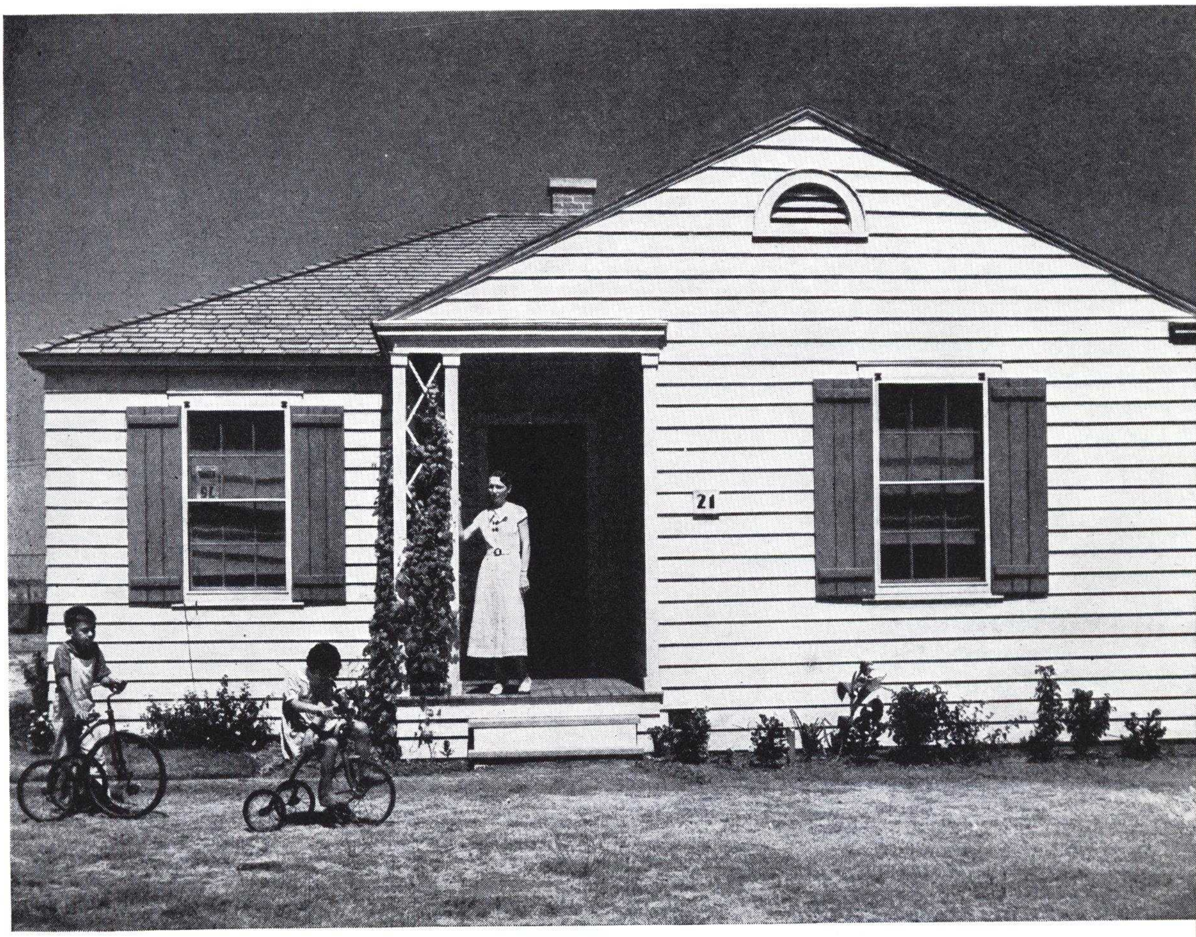
TEXAS COTTAGE
11,350 CU. FT.

SIXTY-TWO HOUSES of this type have been built on plots averaging 3 acres each in the Resettlement Administration near Wichita Falls, Tex.| Each homestead also has a combination garage, storeroom and chicken house, and 49 have cow barns. The houses are small, compact, of Colonial design, with a cubage of 11,350 cu. ft. and would also be suitable as summer cottages with a few changes.

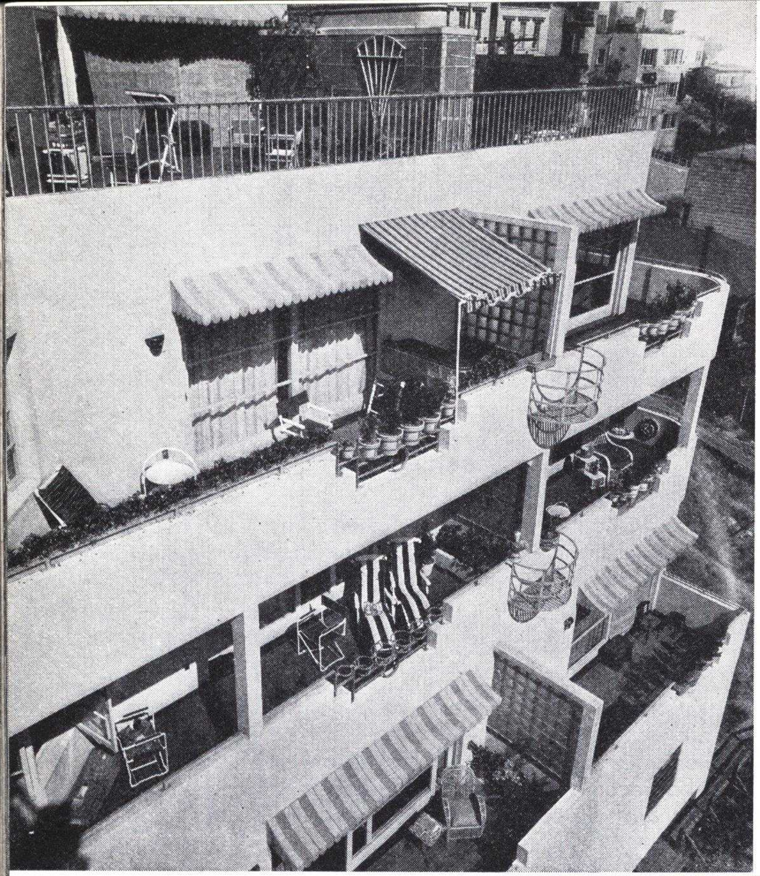
THIS PROJECT is owned by a nonprofit local community association which deals with the individual homesteader. Occupants are low-income families who become members of the association and elect a board of directors. Project is subject to local taxation.

THE FLOOR PLAN has been designed to meet requirements of a warm climate, with cross ventilation in bedrooms and louvres in outside walls to ventilate attic. The bathroom is located between bedrooms and away from living quarters.



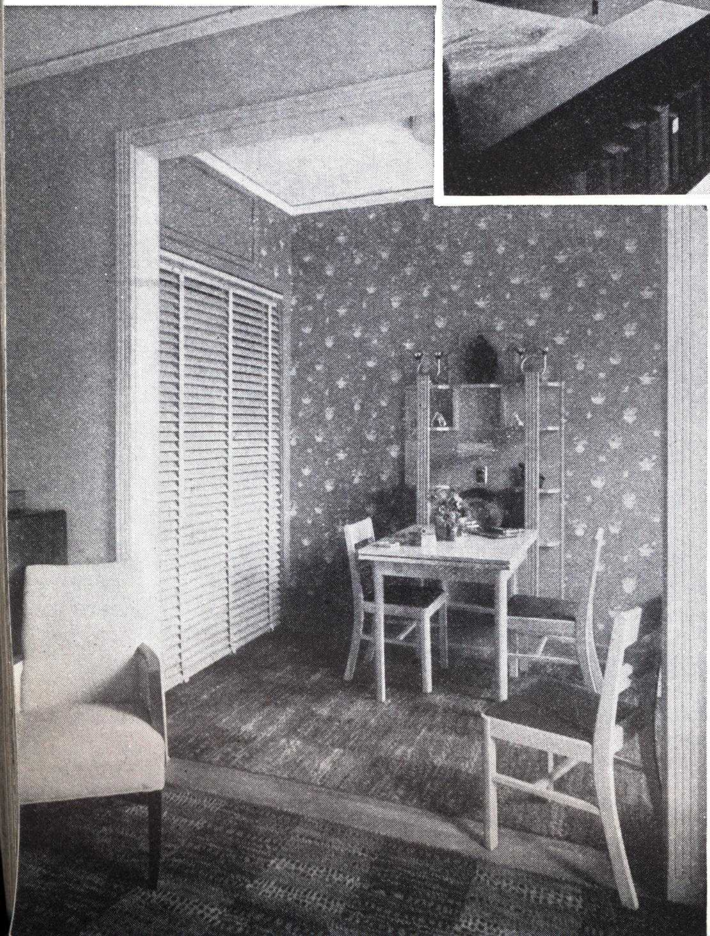
Progress in Apartments

Streamlined Ideas, Inside and Outside, Embarrass the Past

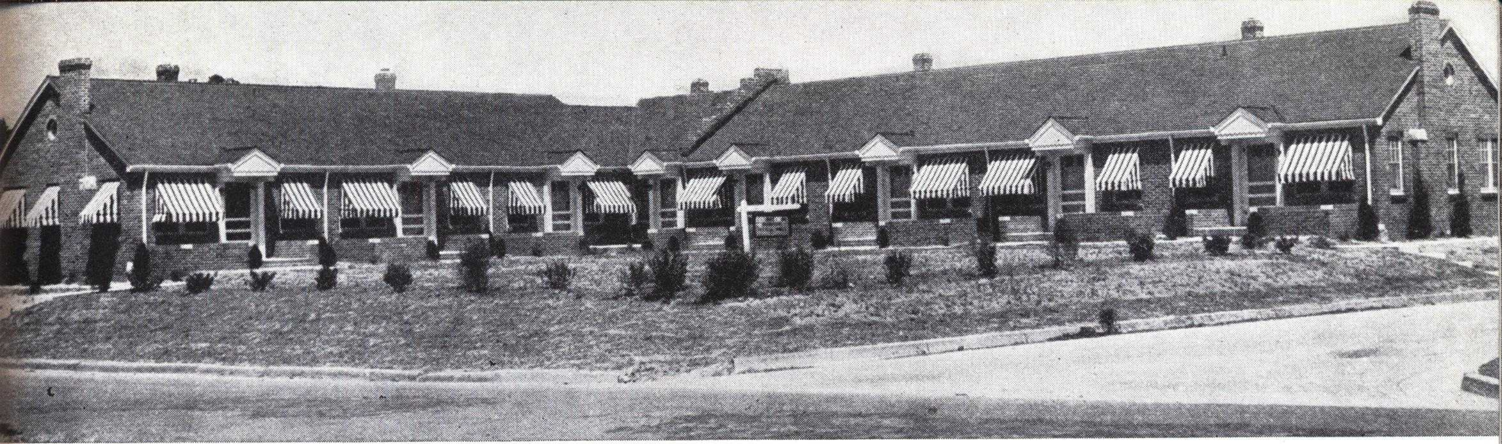


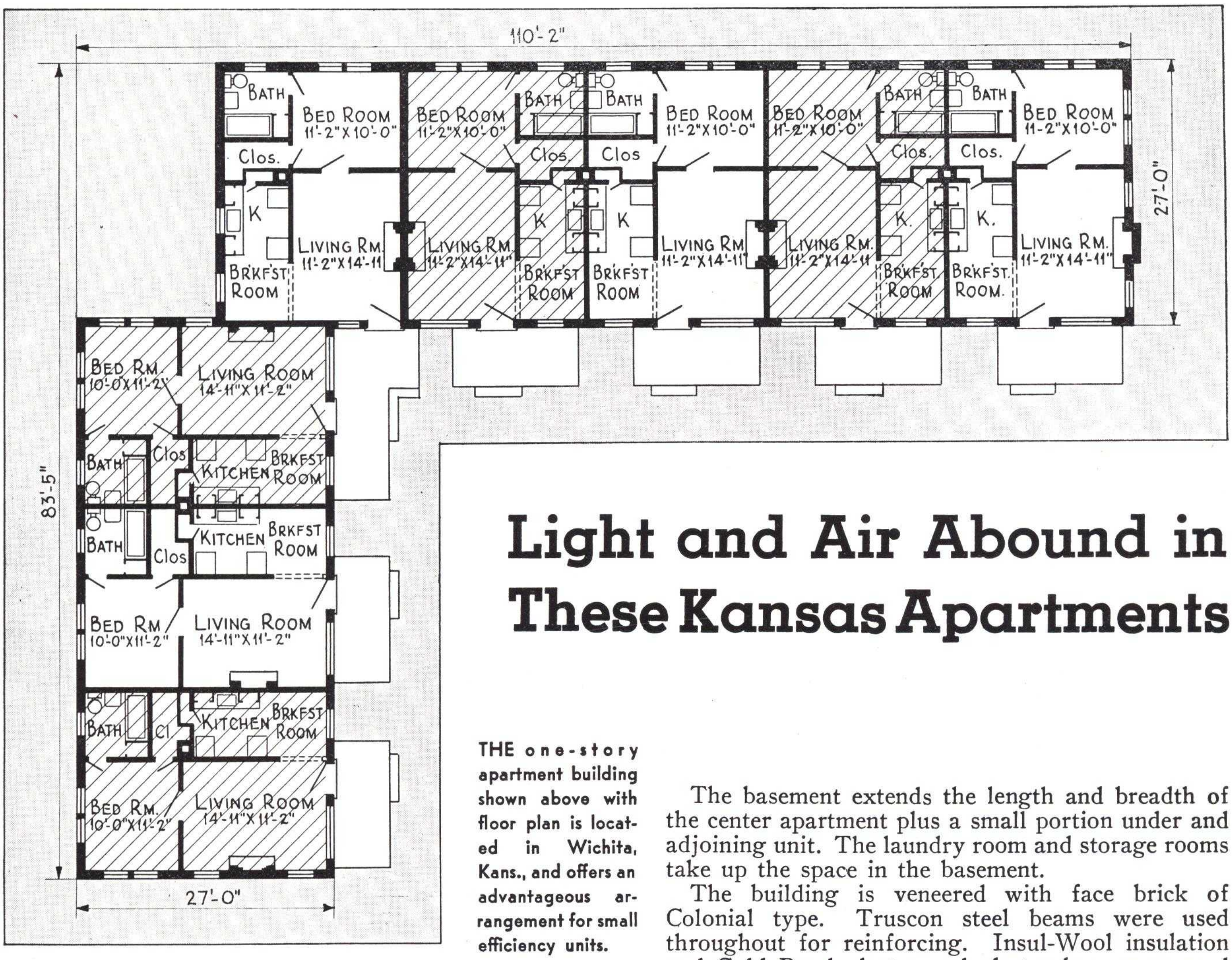
ABOVE; "Privacy panels" of glass block improve the sun terraces of this San Francisco apartment; T. S. and J. Ralph Malloch, builders.

BELOW; Living rooms in the Mallochs' San Francisco apartment have smart styling with glass block panels and softly curved mantel.



LEFT; Venetian blind conceals compact kitchenette in Brooklyn (N.Y.) apartment; Robert Helmer, Architect.





Light and Air Abound in These Kansas Apartments

THE one-story apartment building shown above with floor plan is located in Wichita, Kans., and offers an advantageous arrangement for small efficiency units.

THE Colonial Terrace Apartment House in Wichita, Kans., is an L-shaped building designed and constructed by A. N. Bontz & Son, Wichita building contractors, to house eight families. It is located on the lots so that there is a large lawn with shrubbery in front of the apartments to give a large open court with a homelike atmosphere and space to assure sunlight and ventilation for all of the apartment units.

There are four different layouts for these apartments with only two apartments of each design. Each apartment has a living room, a bedroom, kitchen and dinette. Living rooms have wood and tile mantels and fireplaces. Kitchens are equipped with gas range, electric refrigerator, built-in cabinets and sinks. Sealex linoleum is used on the floors and cabinet tops. There are hardwood floors throughout. Walls are covered with Imperial washable wallpapers.

The basement extends the length and breadth of the center apartment plus a small portion under and adjoining unit. The laundry room and storage rooms take up the space in the basement.

The building is veneered with face brick of Colonial type. Truscon steel beams were used throughout for reinforcing. Insul-Wool insulation and Gold Bond plaster and plaster base were used in the walls. The door and window openings are thoroughly weatherstripped and caulked.

All plumbing fixtures in the building are from the Crane Company. A fire wall in the center of the building between apartments four and five and a fire coping on the roof were required by the city code.

Each apartment has a Coleman gas floor furnace made by the Coleman Lamp and Stove Company of Wichita. All wiring of the building was done according to the adequate wiring code of the General Electric Company. Corbin hardware was used throughout the building.

At the back of the apartments there are eight garages finished with drop siding walls and sliding doors. Inside, the floors and ceilings are unfinished and the floors are of gravel. Red cedar shingles were used for roofing of the garages as well as the apartment house.

ECONOMICAL HOUSING FOR TWO FAMILIES

Built in River Forest Manor by Fort Dearborn Mortgage Co., Chicago

ALTHOUGH the housing trend has recently been toward single-family units, it is still frequently desirable to take advantage of the economies in two-family houses, especially where higher building and land costs are found. In building such units as shown above, the Fort Dearborn Mortgage Company, of Chicago, has been able to offer a very livable five-room accommodation at a price which shows how substantial such economies can be. The exterior has been kept to a simple rectangle with an unbroken gabled roof. The plainness can be further relieved with blinds also flanking the upper windows.

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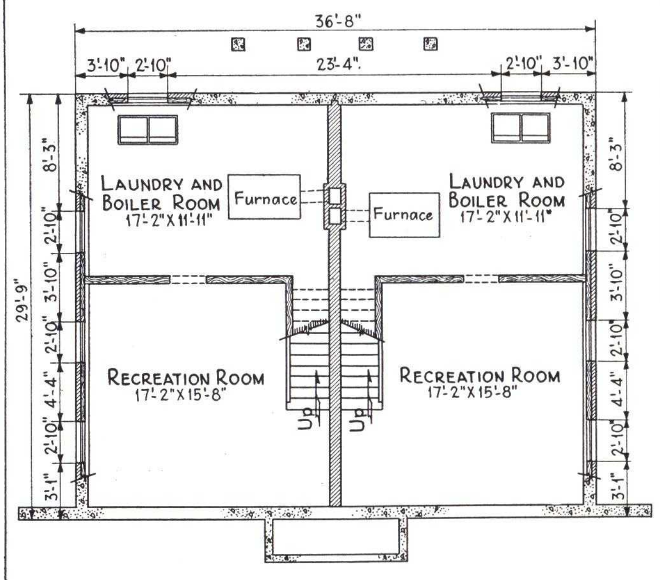
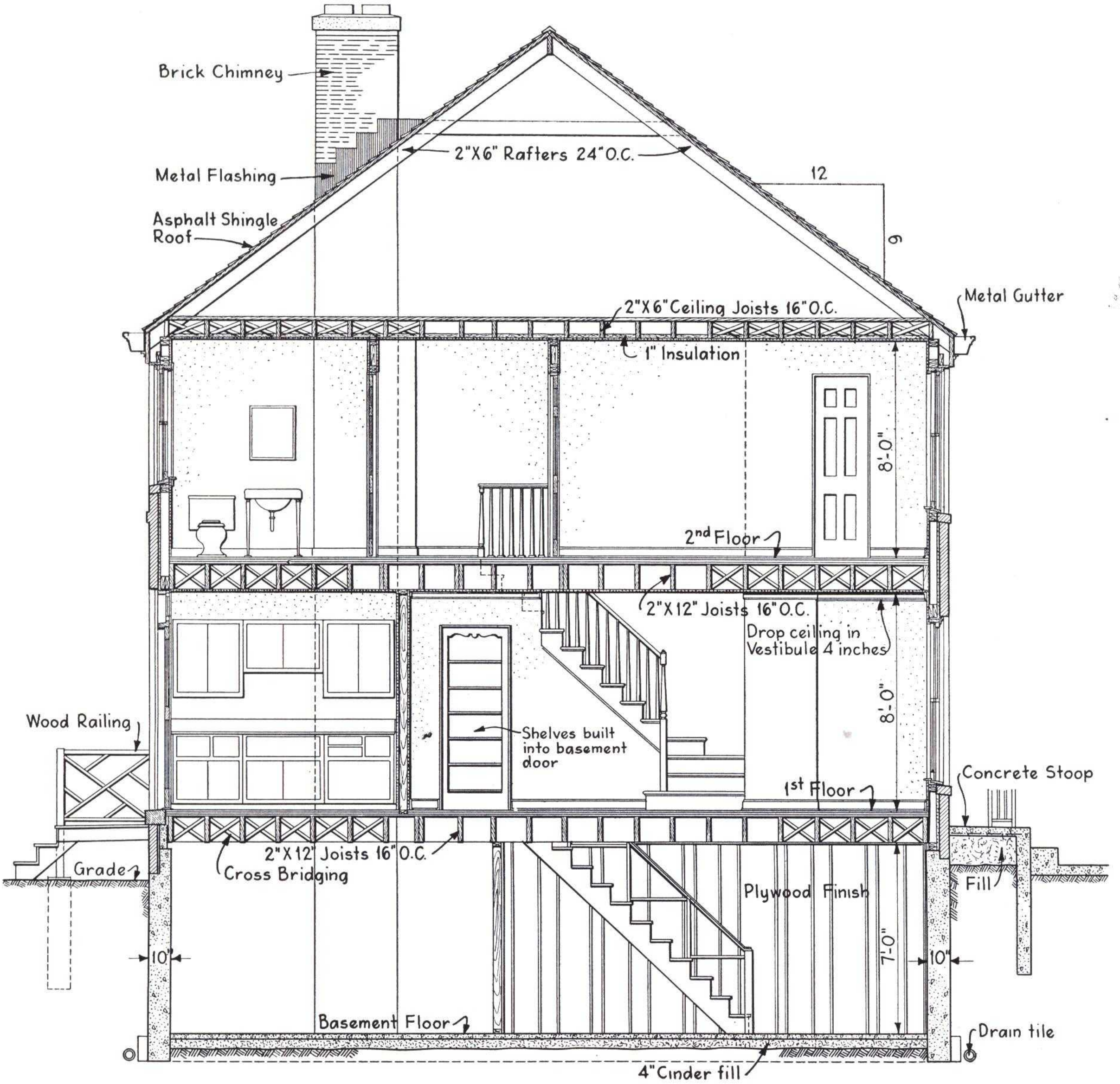
As seen in the floor plan, these houses are very compact. The basement features a recreation room with plank pattern plywood finish and a combination laundry and boiler room. The living room is entered from a vestibule with guest closet and has second floor stairs leading up along the same wall. Since the stairway to the basement is directly below this, decorative shelves have been built into the basement door, as shown in the cross section drawing on the opposite page. The dining room alcove is placed at the rear end of the living room and has a very efficient little kitchen adjoining it. The second floor, likewise, has no waste space; four closets which provide for ample storage have been carefully planned. The wall space areas allow alternate arrangements for beds with windows placed for cross ventilation.

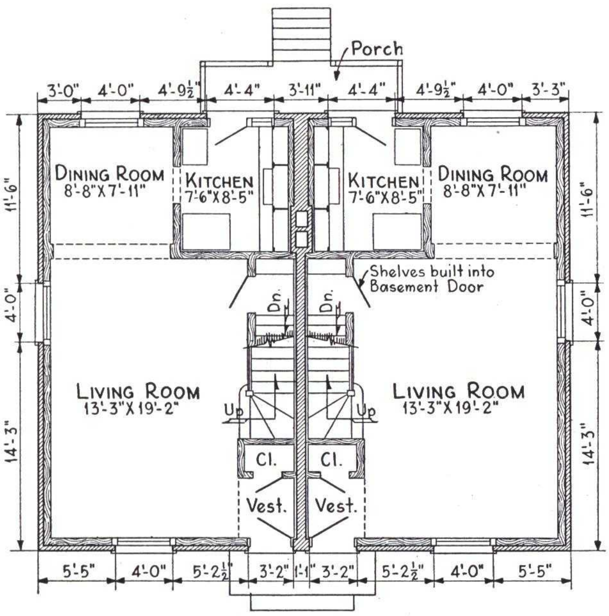
BESIDES the original cost savings on these houses, construction has been such as to keep operating expenses at a minimum. They are well insulated with Celotex board and insulating lath, and have autumn tint brick veneer and a three-in-one thick butt asphalt shingle roof. Other construction items include: Crane plumbing fixtures; American Radiator Sunbeam winter air conditioning system; Beardslee light fixtures; Hoosier kitchen cabinet work; Libbey-Owens-Ford glass.



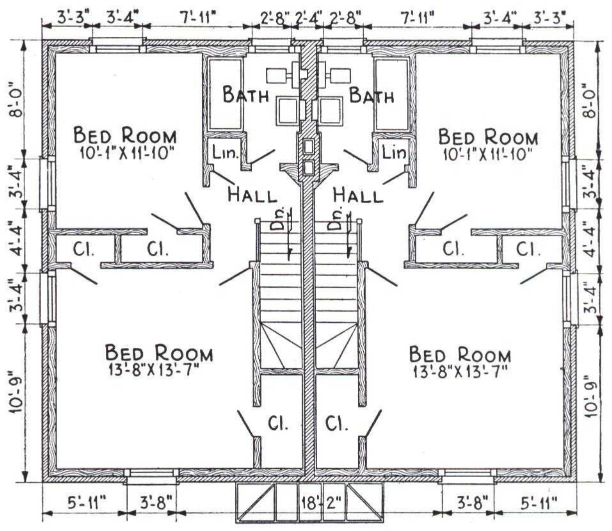
BASEMENT PLAN



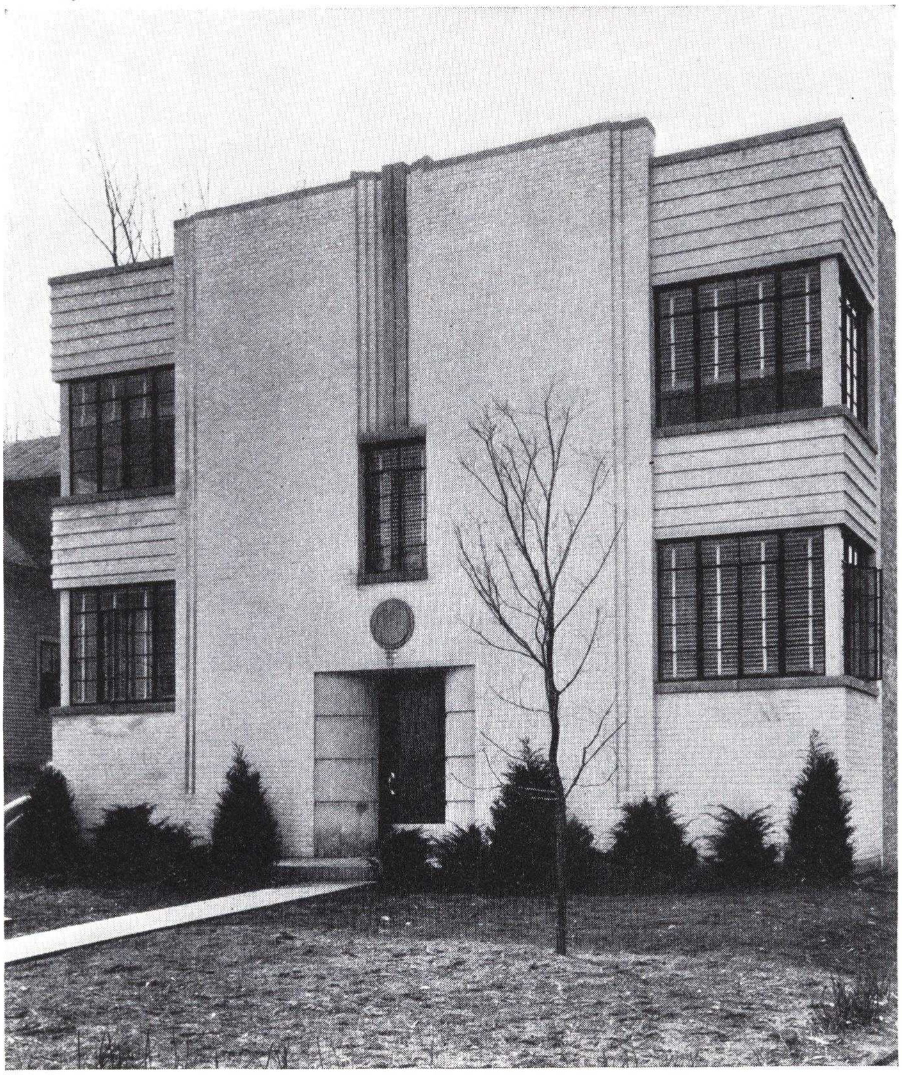
Cross Section



First Floor Plan



Second Floor Plan



FRONT VIEW of modern four-suite building built in Deerfield, Ill., by the Puritan Construction Co., and designed by Godfrey E. Larson, Chicago architect.

Apartments Designed for Young Moderns

AN APARTMENT building planned especially to satisfy the requirements and tastes of today's newlyweds was recently completed in Deerfield, Ill., a suburb of Chicago. It was designed by Architect Godfrey E. Larson and erected by the Puritan Construction Company. Four units of four rooms each occupy the two floors, with a basement providing adequate storage space, boiler room and generous laundry.

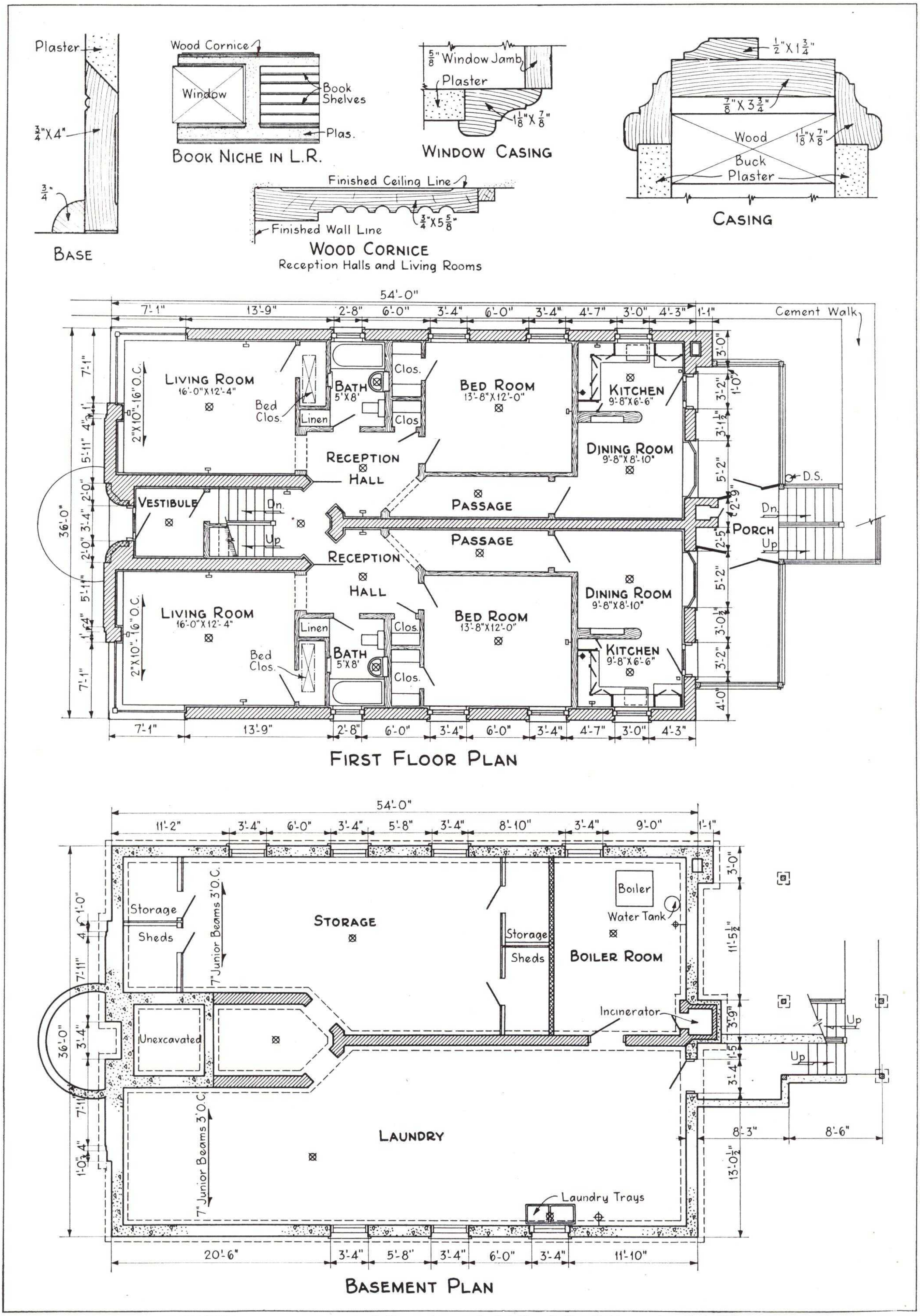
As seen in the illustration above, the exterior is styled in a pleasing modern manner. The simple entrance detail is flanked by the corner window treatment at the sides carrying strong, contrasting horizontal lines in the brick courses and muntins. This front is a combination of Bedford plain rubbed stone trim and white pressed brick.

In layout, detail and decoration the apartments carry out the efficiency and modernism suggested by the exterior, as indicated by the floor plans on the opposite page. Living room, bath and bedroom are grouped to the front off a reception hall. A Murphy In-A-Dor bed provides accommodations for guests; built-in book shelves are placed in the opposite corner of the living room. The dining space and kitchen to the rear are reached by a connecting passage which has been given ample width without leaving the bedroom too narrow for good arrangement. The kitchen is partially screened from the dining room by a ceiling high partition having built-in shelves. The compact kitchen features metal cabinets, linoleum covered counter tops and G-E refrigerator and range. Each apartment has a good sized rear porch with convenient access to the Kerner incinerator.

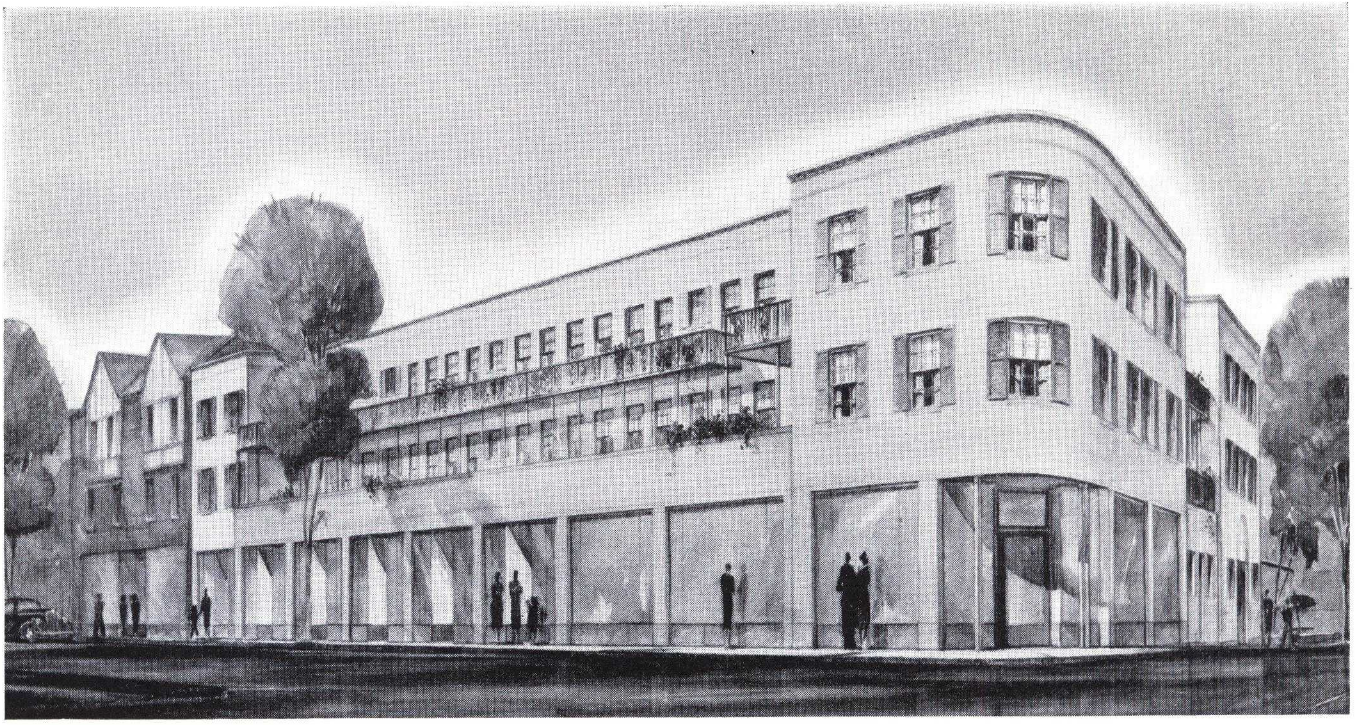
The interior decoration and trim (some of details being shown) were especially designed and selected to appeal to young moderns. Millwork is simple and kept to a minimum; wallpaper and color schemes will harmonize with modern furnishings.

Some of the other construction and equipment features are Jones and Laughlin Junior beam reinforced concrete main floor construction, Fenestra windows, plaster over Rocklath, Silvercote insulation in roof, clear red oak floors except Congoleum-Nairn linoleum in kitchens and tile in baths, Fitzgibbon boiler, Chrysler Airtemp unit and Young Streamaire concealed cabinet radiators, Standard Sanitary fixtures and Venetian blinds.

The building occupies a 50 x 200 foot site, a 4-car garage being located at the rear; it cost about $20,000.



BASEMENT arrangement, typical floor plan and details of Deerfield apartment building.



ARCHITECTS' RENDERING, above, shows business street side of apartment and store building which features novel living terraces.

Modern Apartment and Store Building of Unusual Shape and Design

Highland Park, Illinois, Structure Planned for Site Between Commercial and Residential Sections

IN THE recent revival of apartment building, one type of multi-family structure which has up to now received very little attention but promises to be more popular in the near future is the combination unit with stores on the first floor and apartments above. Just such a building was completed a few months ago in Highland Park, Ill. It is known as The Terraces, and has many unusual points of interest.

One of the reasons why it is believed that this type of building will receive more prominence is that advances have been made in zoning and planning which call for a type of buffer building in the transition area between the purely business sections and the 100 per cent residential areas, either apartments or homes. In the case of The Terraces, this type of location has had a great deal to do with its success. Being within one block of a suburban railroad station and surrounding neighborhood business area, it offers great convenience to tenants who want a compact living unit handy to stores and transportation.

Armstrong, Furst & Tilton, Chicago architects, in designing this building, effected a pleasing compromise between the commercial side of the building on Roger Williams Avenue, the business street, and the apartment entrance side on Judson Avenue, facing the residential neighborhood.

A modern version of Southern Colonial architecture worked out ideally for this type of building. The setbacks where the apartment terraces and balconies are located give interesting lines and add a very rentable feature to the apartments. The white painted brick and blue-green shutters and trim carry out a note of distinction and charm.

To further offset any resistance because of proximity to stores in the same building, much time was spent in studying and working out the smallest details connected with the apartment entrance. Wrought iron ornament around the carefully detailed Colonial doorway which leads to the tastefully furnished entrance foyer creates a good impression on anyone entering the building. Colorful rubber tile floor and rubber covered stair treads and risers, together with deeply carpeted halls, further carry out this idea.

The balance of the first floor is laid out for eight stores, six of which are of a size to accommodate the usual variety of neighborhood shops. A corner of the irregularly shaped store No. 8 can be taken out to provide a smaller unit. This space can be thrown into the larger store which has fine, clear floor area because there are only two supporting columns and excellent window display area; this would make an ideal location for a drug store serving light lunches. Stores Nos. 2, 3, 5 and 6 have a knockout panel in the concrete floor for stairs in case a tenant wants basement storage space. The heating plant is located underneath store No. 4.

There are 20 efficiency apartment units in this building, ten on each of the two upper floors. Smaller units consist of living room with dining alcove space, service room

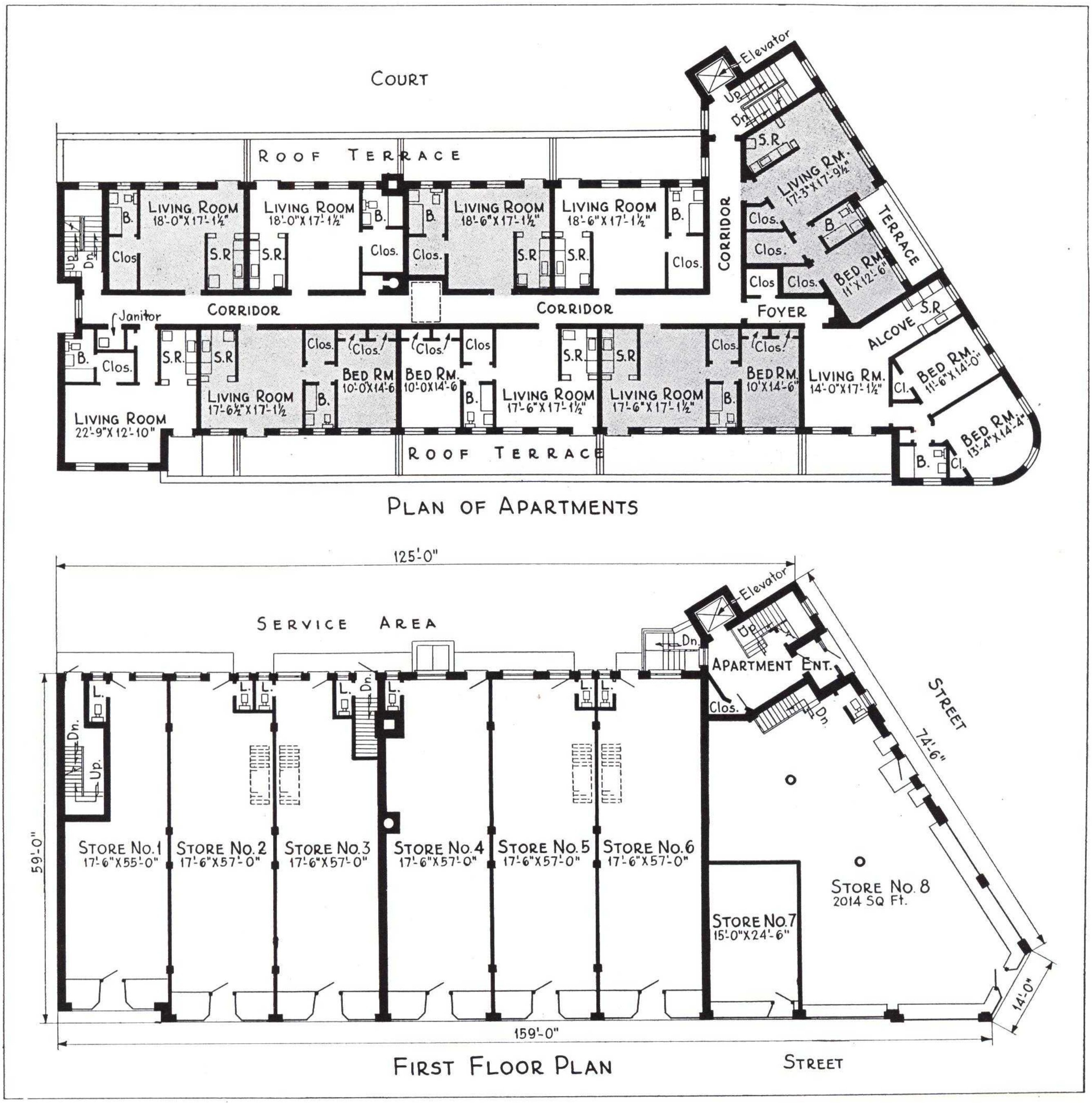
kitchen, bath and dressing closet. One or two Roll-A-Way beds are kept in these closets. Each apartment has its own terrace opening off the living room. The larger units are similar, with the addition of one or two bedrooms.

Equipment in the apartments was selected to offer the most in modern living. The kitchens were especially designed by the St. Charles Manufacturing Company and are equipped with noiseless steel cabinets, stainless steel sinks, Electrolux refrigerators, and Ilg ventilating fans. Louvred, folding screen type doors separate this room from the dining area. The living rooms are well lighted. Apartments are equipped with specially designed Beardslee lighting fixtures, numerous electric outlets, radio and telephone outlets. The tiled baths have matching colored Crane plumbing fixtures. Bedroom units have twin closets as well as the large dressing closet to provide ample storage space.

The building has proved to be highly successful from the investment standpoint. Mr. Paul Phelps, managing agent of the building who is also a developer and builder, was largely responsible for many of the features contributing to its success. He has a broad background of management and building experience. To keep maintenance costs down the building was planned to be as nearly self-operating as possible. Such features as Kernerator incinerator, self-operating Otis elevator, automatic stoker-fired Kewanee boiler on two-pipe steam heating system, and rear hall delivery receiving cabinets for each apartment are some of the contributing items. Incidentally, this locker arrangement in the rear stair hall keeps tradespeople out of the corridors; front entrance, apartment, stair hall and cabinet locks open with each tenant's key.

Other materials and equipment used in the building include Pittco "Easy-Set" store fronts and Tile-Tex asphalt flooring in stores, Barber built-up asphalt roof, Insulite board under terraces, Lok-Joint lath on outside walls.

Erik A. Borg was the masonry contractor on this job and Turner-Wilcox was the carpentry contractor.



PLANS of The Terraces indicate store arrangement and typical apartment floor of this building designed for an odd-shaped lot.

100% Increase In Livability—Only 2% In Cost

Adequate Wiring Makes Vast Difference in Convenience Equipment Possible Today. Philadelphia Builder is First to Win New Wiring Certificate

ADEQUATELY wired homes offer "more house for the money." They provide a one hundred percent advance in livability at not more than two per cent increase in building costs. The difference between adequate wiring and the present average type of house wiring layout is ninety-eight per cent a difference in planning.

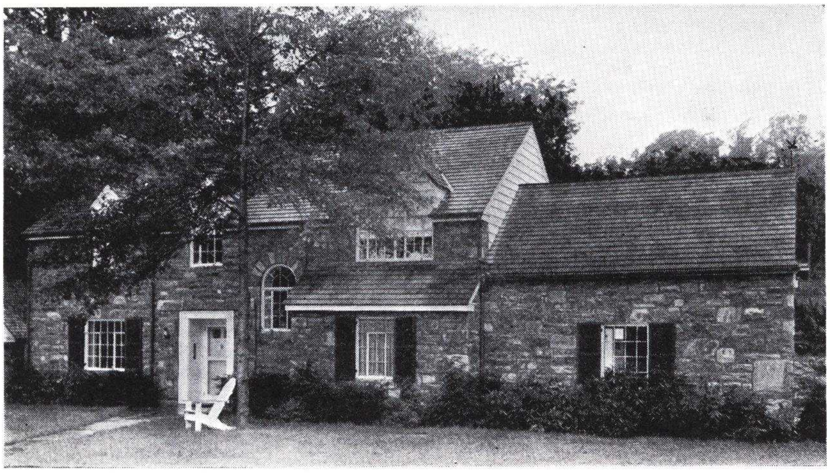
To the builder this means added sales appeal. Now that there are new wiring standards which can be applied to add real value to any house at a relatively low cost, many builders are featuring the electrical installation as a major appeal. This has been made practical through the services of more than 150 Adequate Wiring Bureaus which have been formally or informally organized all over the country under the National Adequate Wiring Program, launched earlier this year.

Through these Bureaus, the national standards for minimum wiring adequacy are adapted according to all sizes and types of dwellings, to add the ease of "electrical living" to lower cost homes, and still remain within essential economic limitations.

Fifteen of these Adequate Wiring Bureaus already offer a certification service which provides builders with tangible evidence of the lasting value of the electrical installation in the adequately wired home. The service includes approval of plans, inspection during construction, the affixing of a permanent seal of approval to some part of the home's electrical equipment, and the award of a duly attested certificate to be added to the owner's papers.

These "certified adequately wired" homes record quick sales. Many have been built and sold since the opening of the building season this year. The purchasers of these homes testify to the popularity of "electrical living" and to the sound promotional instinct of the builders who feature this sales factor.

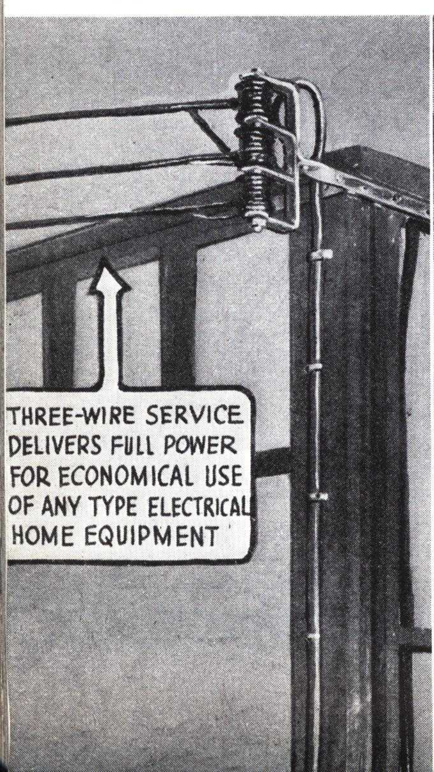
B. Franklin Theobald, of Philadelphia, claimed for the suburban resi-



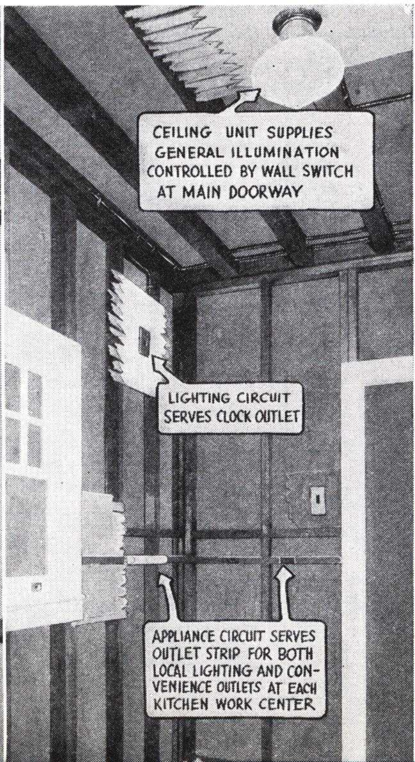
"Adequate Wiring Sold This House," Says B. F. Theobald, Philadelphia Builder. Photos below show wiring details in Philadelphia Electric Co.'s house exhibit.

THESE WIRING DETAILS MAKE POSSIBLE FULL USE OF MODERN CONVENIENCE EQUIPMENT IN THE HOME

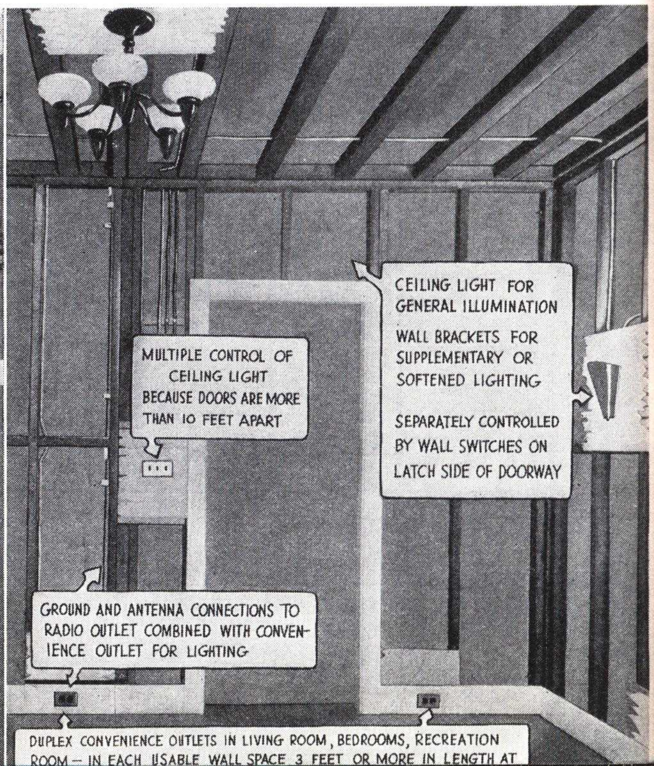
SERVICE ENTRANCE—OUTSIDE



KITCHEN



LIVING ROOM



dence illustrated herewith the first adequate wiring certificate issued. Dozens of applications were filed in other communities during the same week.

Mr. Theobald states, "Adequate wiring sold this house. The man who now owns it wanted for his family the most advantageous purchase possible. He asked for positive assurance of controlled operating and maintenance costs, every possible precaution against pre-amortization obsolescence, and built-in living comfort.

"The advantages of adequate wiring had been effectively publicized in Philadelphia by the local Electrical Association through its Adequate Wiring Bureau. When I applied to the Bureau for certification service, I knew that my customer would recognize that he was getting a lot more for his money when I handed him that certificate—and when the newspaper reporters photographed his house as an outstanding example among modern, well-equipped homes."

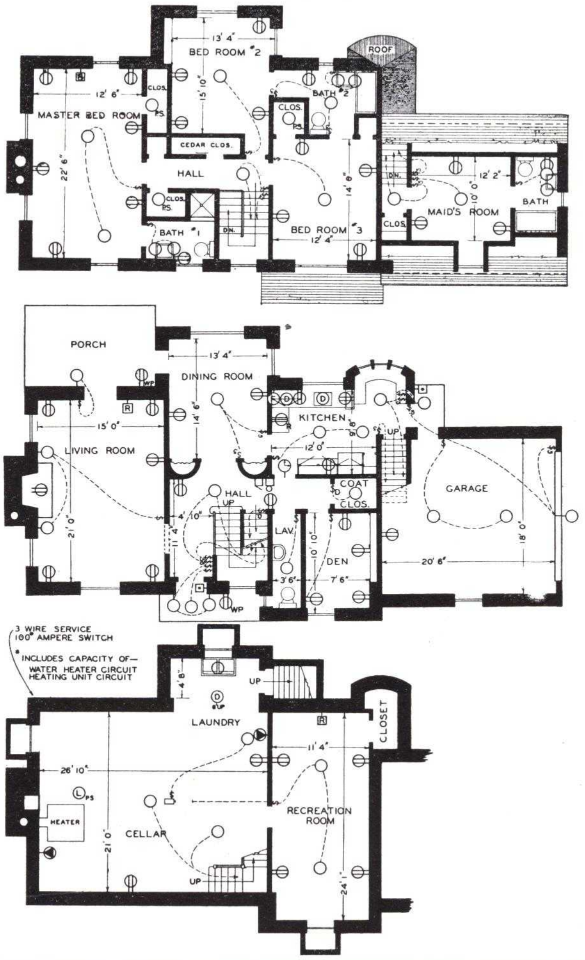
This kind of publicity is more than a direct sales help. Any good builder's reputation is strengthened by identification with practical advances which enhance property values.

Prospective home owners respond to the appeal of adequate wiring because it assures the kind of electrical service that will mean easier living, cleanly, economical home management and maintenance, increased home safety and many minor luxuries that would otherwise be beyond reach. Whether or not the average citizen knows enough to demand adequate wiring, sight unseen, he is, oddly enough, quick to appreciate its advantages when they are displayed.

In those communities where the local electrical interests do not offer a certification service, plans for adequate wiring installations are available to builders.

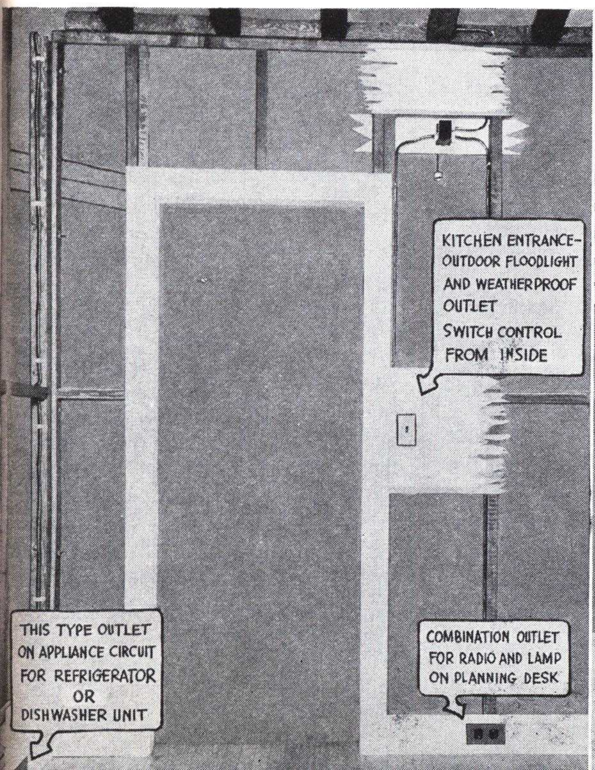
Fully Wired for Convenience Equipment

Floor plans show closely-detailed wiring procedure in adequately wired Philadelphia home built by B. F. Theobald.

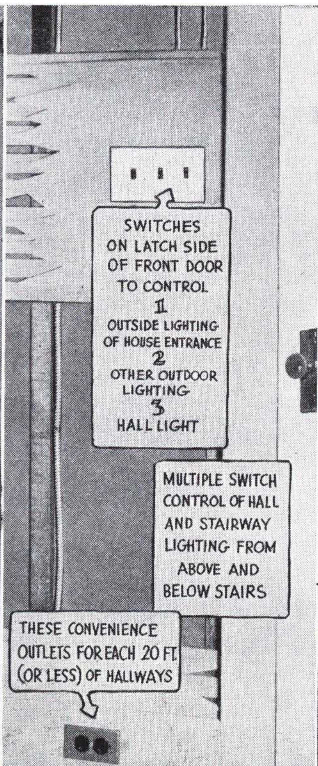


SUGGESTIONS FOR SWITCHES, OUTLETS, LIGHTING AND EQUIPMENT DETAILS FOR ADEQUATE WIRING

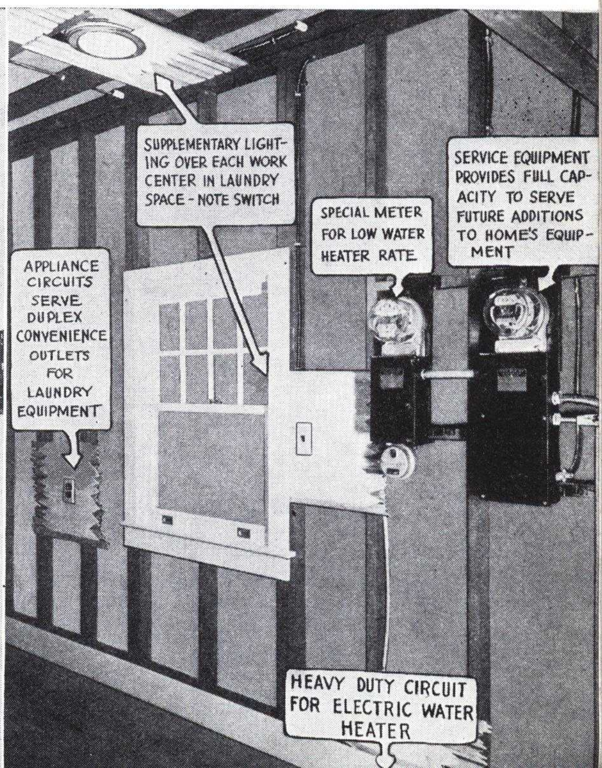
BACK DOOR TO KITCHEN



FRONT HALL ENTRANCE



BASEMENT—LAUNDRY



Efficient Housing for Two Families

Compact and Attractive Kansas Duplex Is Result of Improved Planning

FAR from being the uninteresting, poorly-lighted, cramped structure which was once known as a "double house," this duplex located in Wichita, Kans., would be a welcome relief to many tenants. It represents a forward step in two-family rental property; attractive exterior with a homelike appearance, rooms with plenty of light and air, good sized closet areas, compact "U" kitchen, and handy motor room give the structure the important features of modern single-family houses. John R. Butler, Wichita architect, was the designer.

The two units are identical, the half plan being reversed. Each contains five rooms and attached garage, yet the overall dimensions of this compact building are only 38 by 46 feet, allowing it to be placed on as little as 45 foot frontage. Brick veneer below the front gable ties in with the massive chimney which carries the flues for the two ingle nook fireplaces and heating plant. Corner windows complete the clean-cut effect and provide a sunny corner in the living rooms.

Other construction features are as follows:

Foundation—Cement block walls, with reinforced concrete footings.

Siding—¾" x 9½" clear white pine, bevel siding.

Interior Walls—Wood lath and plaster; interior stucco in living rooms, dining rooms and second floor halls.

Floors—13/16" No. 1 white oak, Armstrong linoleum for baths, kitchens, and counter tops.

Roof—No. 1 16" edge grain red cedar shingles.

Insulation—Complete insulation of second floor, and exposed first floor ceiling with 1" blanket type insulation.

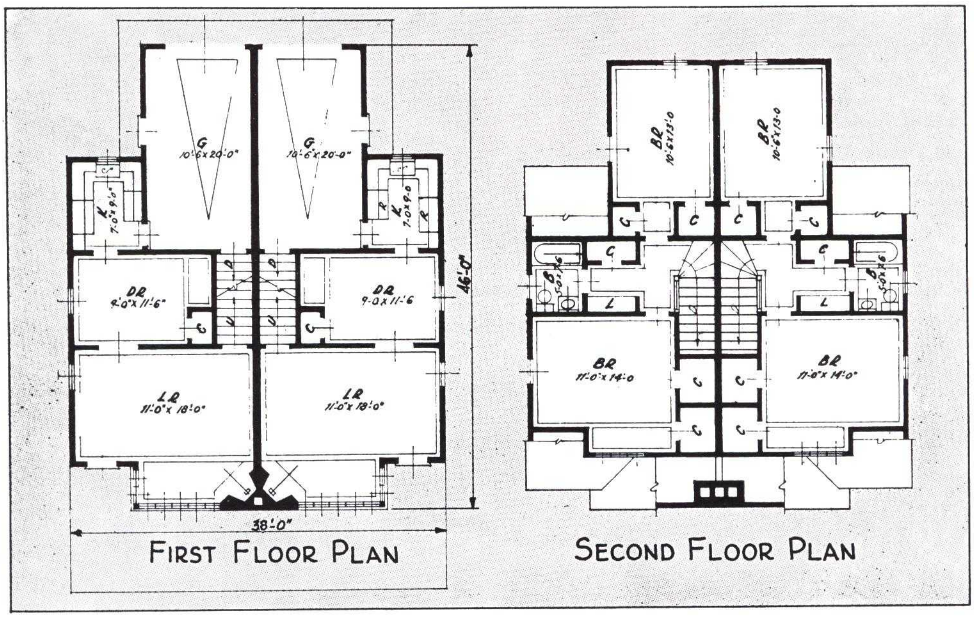
Garage—Overhead door.

Windows—Stock white pine double-hung sash with narrow interior and exterior trim, Andersen casements, Fenestra basement sash.

Plumbing Fixtures—Crane.

Heating—Winter air conditioning system.

Painting—3 coats lead and oil for exterior, 2 coats Cabot's stain for roof and shutters.

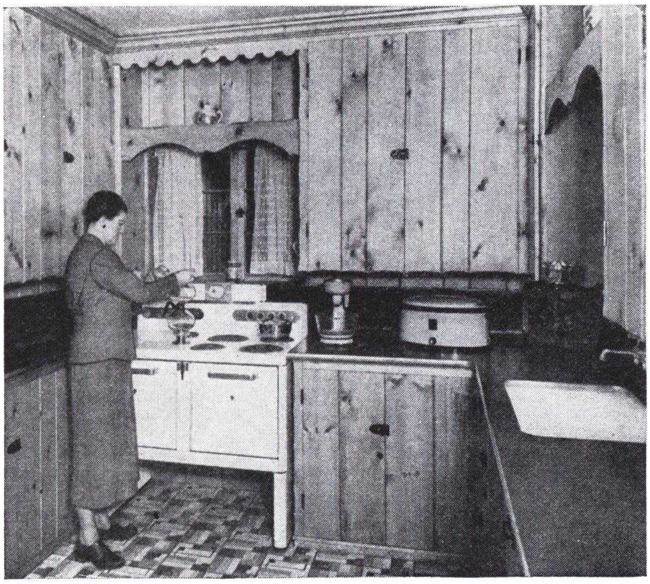


AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 177

FRONT VIEW of this Wichita, Kans., duplex shows the design possibilities in a well handled two-family house planned by Architect John R. Butler. In the plan, above, there is a minimum of unusable space. Windows are placed to take advantage of two views—a park to the front and a river to the rear.

Home Designs for Summer Comfort

Several types of houses for Resort and Country requirements are to be found among those homes selected for this Section.



THE VIEWS above and to the left show the wall and ceiling treatment of the living room and the compact kitchen of a week-end retreat built by Grover and Dunlap near Cleveland, O. The exterior and floor plan of this well constructed, rustic country house appear on the next page.

THE RUSTIC appearance given to this week-end home by the use of massive log walls, railings and posts makes it fit perfectly into its wooded country site. Second floor bedroom overhang provides shelter over one end of the porch which could be screened in if desired.

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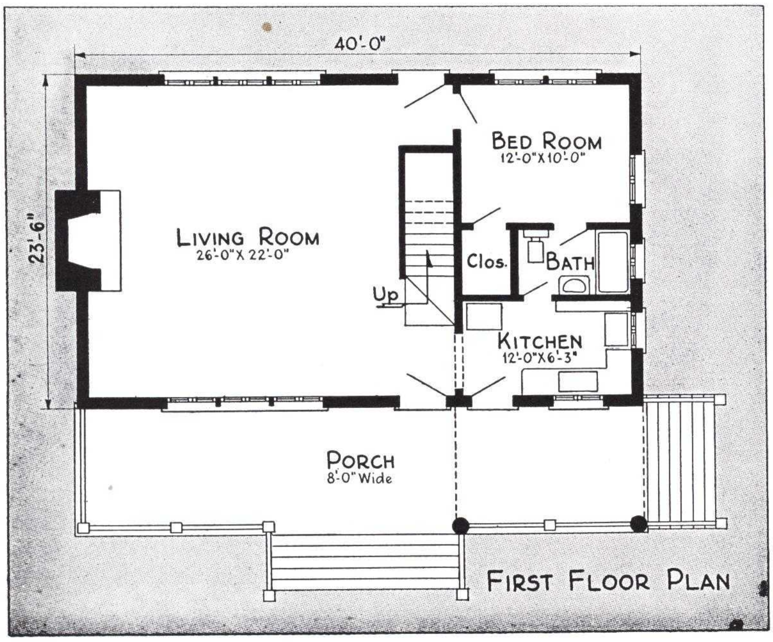
WEEK-END RETREAT IN WILLOUGHBY, OHIO

Grover and Dunlap, Cleveland, O., Designers and Builders

IN VARIOUS resort sections of the country which are close to the cities, many substantial country houses are being built that are planned for year 'round living. Such are the week-end homes built near Cleveland by Grover and Dunlap of that city, one of which is shown above, with interior views on the preceding page. Although rustic in appearance, this home is thoroughly insulated and has provision for quick heating. The large studio living room takes up more than half of the cubage; the stairway leads to a bedroom and a bunkroom placed directly over the first floor bedroom, kitchen and bath.

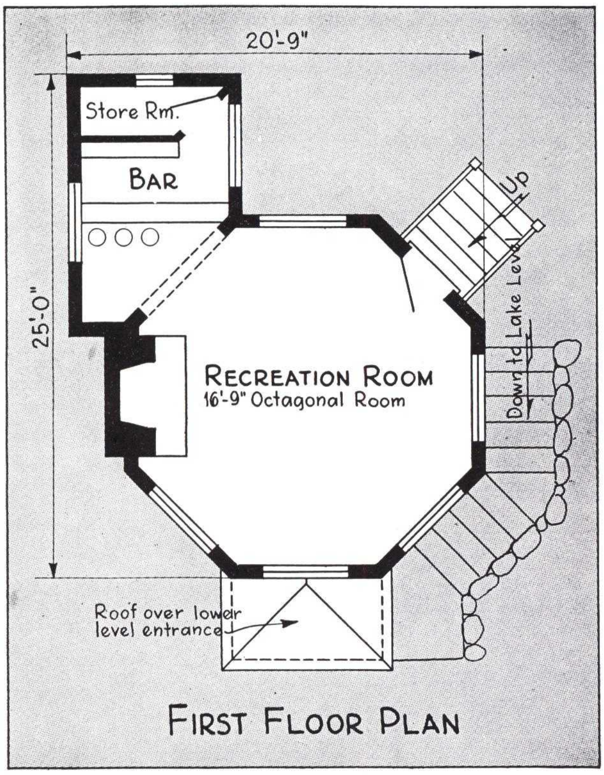


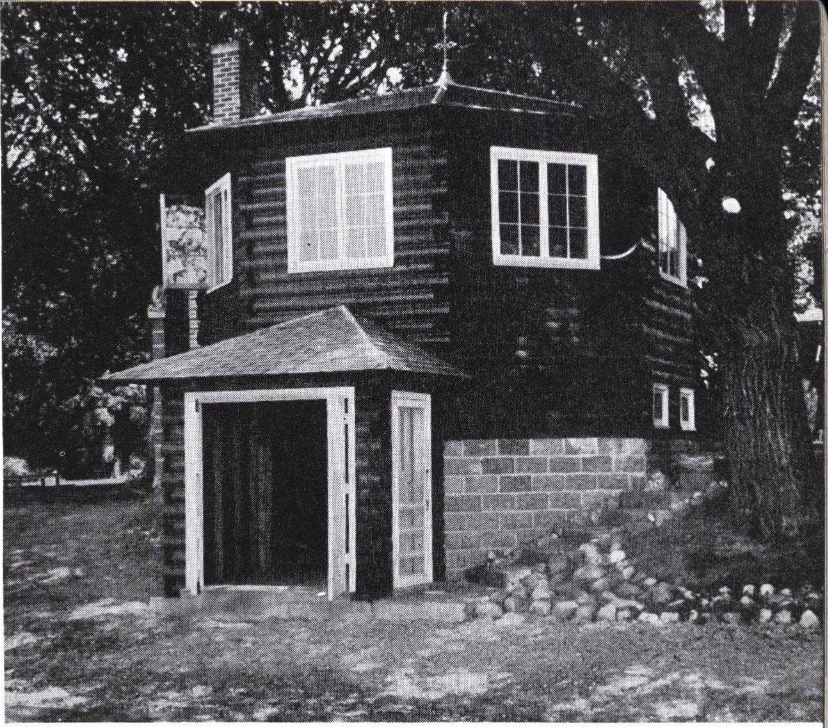
THE EXTERIOR first floor walls are of logs caulked with white compound and oakum; boards and battens of knotty pine are used above and the same material serves as interior wall finish in the rooms throughout. A 2-inch thickness of rock wool insulates the outside walls, 1/2-inch Masonite and 4-inch rock wool are used in the roof. The electric fan-equipped Heatilator in the living room fireplace assures positive circulation of heat from the gas or wood-fired grate. Westinghouse 2000-watt electric wall heaters supplement this source in bedrooms and bath.

Other construction features are: Foundation of concrete piles; asphalt shingle roof; water supply with Deming electric pump; Duo-Therm hot-water system; all copper Rolscreens; doors and windows weatherstripped in zinc; rubber-covered kitchen counters; linoleum on floor; all-electric kitchen; random-width select white oak flooring laid over Sisalkraft on a tongue-and-groove sub-flooring; Masonite walls in bath.

RECREATION HOUSE FOR LAKESIDE HOME

Located at Delavan Lake, Wis.





BUILT at Delavan Lake, Wis., by Fred Hultgren, this unusual octagonal structure which serves several purposes has been called a "Lido." It is built at the water's edge on a lake estate and provides a private recreation center for the owner. The home itself is set back on the property, a part of the porch showing at the far right above.

The upper level of the house as seen in the plan contains a recreation room with large wood-burning fireplace and bar in adjoining wing. Steps along the outside of the building lead down to the basement at lake level. This has dressing rooms for swimming, with shower and locker stalls placed at the sides. Center portion is at times used for boat storage.

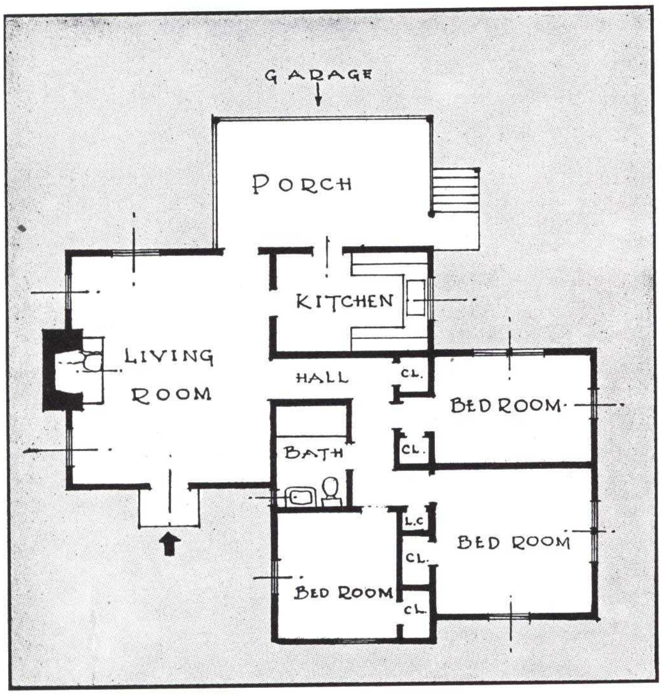
FROM the windows of the recreation room a fine view of the lake can be had; when these outswinging casements are opened the cool breezes off the water sweep through this room.

THE illustration at the right shows the stone fireplace and the bar beyond. Walls are finished in knotty cedar; Nu-Wood tile is used on the ceiling, Armstrong's insert linoleum on the floor.

ONE OF THE RUSTIC LOG CABINS that has made Lake Mohawk so popular. It has a solid log studio living room with 7-foot fireplace, floor-length windows and a splendid porch overlooking lake which can be used for living, sleeping and dining purposes. Roof consists of log slabs set on furring over waterproof roofing paper.

"Banner Year for Cottage Builders,"—Crane

Bargain in Financing Will Attract New Customers and Get Action from Old Prospects Held Back by Lack of Cash Payment



SPLENDID COTTAGE PLANNING is shown in this floor plan (Scale 1/16" = 1'-0") by Robert T. Crane. Note the large windows and the well-proportioned porch with a door to the kitchen.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 177

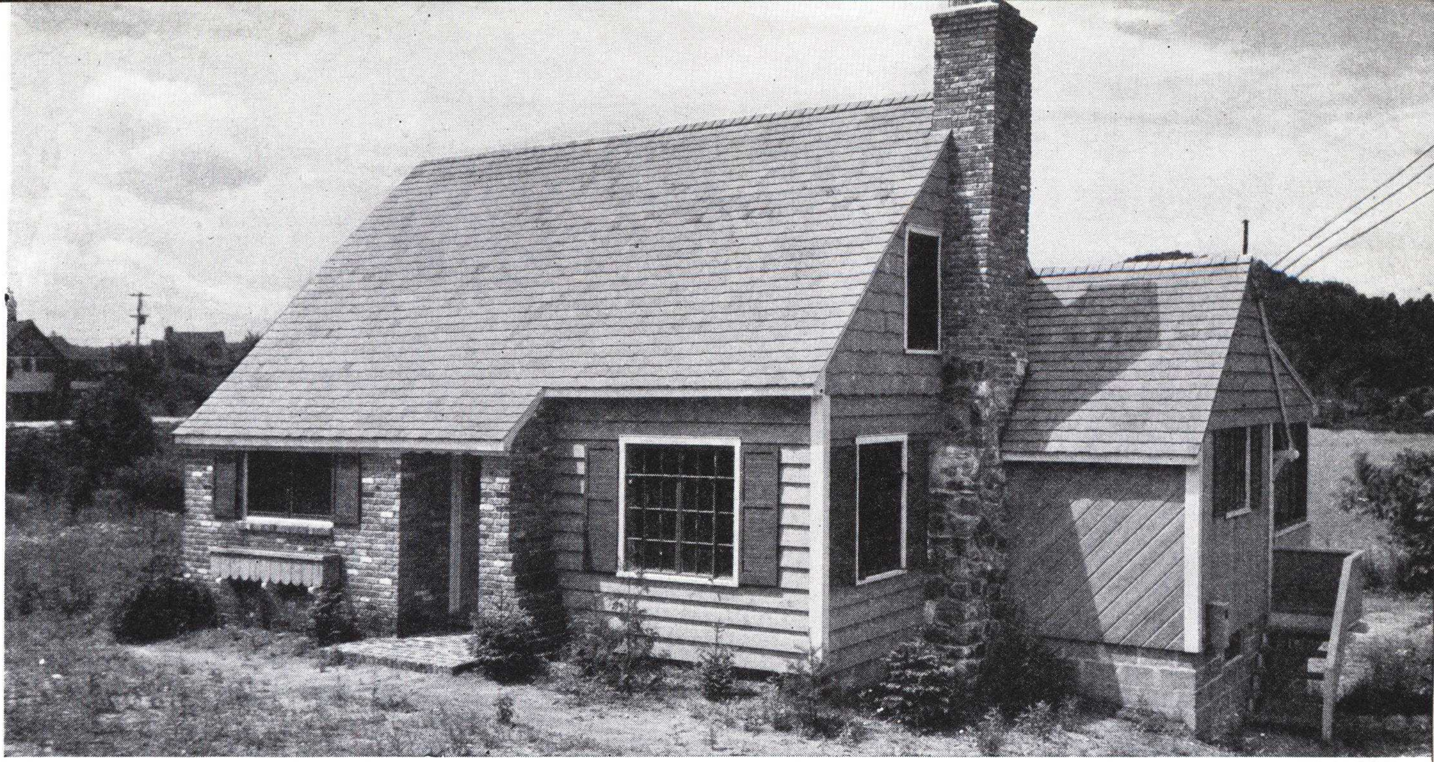
EDITOR'S NOTE—Progress in cabin and lake home construction is nowhere better illustrated than in the work of The Arthur D. Crane Company, specialists in this type of construction, whose successful Lake Mohawk development in the Sparta Hills of New Jersey showed a 100 percent increase in business the first two months of 1938 over 1937. In the following article, Robert T. Crane, vice president, points out 1938 opportunities for builders.

By ROBERT T. CRANE

THE job of the builder as we have found it at Lake Mohawk, may be divided into two major divisions, each of which is important to his financial success. The first step is the construction of potentially attractive houses representing *good value* for the price asked. The second step includes finding the buyer, making the sale and the return of the builder's investment so that the cycle may be repeated.

The accomplishment of the first step is the result of experience and perseverance. A thorough knowledge of the market, the services of a good architect, the careful buying of materials and labor enable us to produce houses that combine good looks with economy and high intrinsic value.

The second step is always the more difficult. You can create a desire to own, but too often, at least during the past few years, it has been impossible to turn that desire into a sale, because of the buyer's lack of sufficient cash



ROUGH SIDING AND COMMON BRICK make this all-year round home on Lake Hohawk fit its environment. Rough siding and roof shingles are stained grey. The trim is white with blue shutters. Cubic contents, 17,411.

and the builder's inability to arrange terms within reach of the buyer.

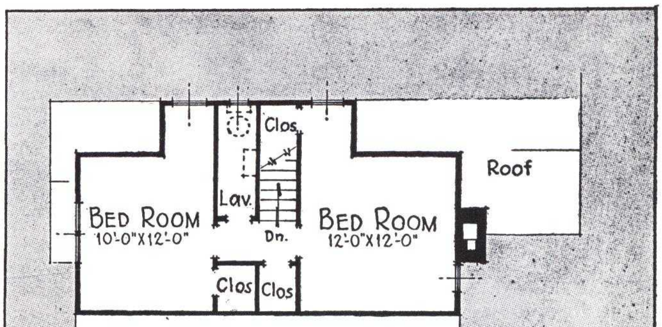
We all know that the financing made available under the original National Housing Act proved a stimulus to the builder. The amendments to the Act, which went into effect on February 4, 1938, have so broadened the possibilities that we are confident that 1938 will be a banner year.

Our business at Mohawk is the development of lakes and the building and selling of property so developed, and it will be materially helped in at least three ways by the new amendments.

The revival of Title I will again make financing available for remodeling, adding to and improving present buildings. We know there is money to be made in this kind of work. The best part of this type of work is that it opens the way for additional business with your old clients and gives you what the storekeeper calls "Repeat Business." Additional sales can be made without touching your "New Prospect" list. We did a considerable volume under the original Title I but know that the new low rates now applying will reduce sales resistance and get us jobs that were given up before, due to the owner's refusal to pay high financing charges.

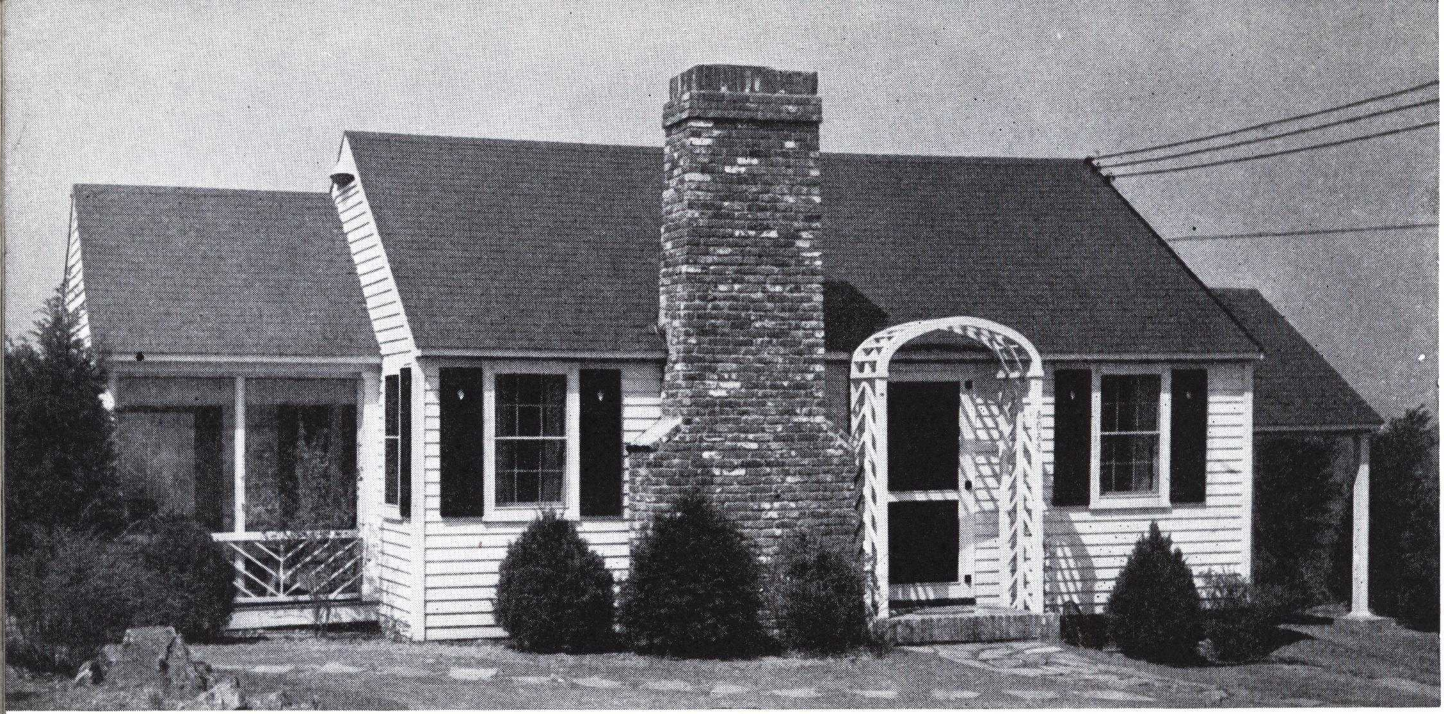
The second factor that will aid our business is the better financing now available on Summer or seasonally used homes. *Interest rates are lower and the term of mortgage has been extended to ten years.* This is particularly important to us but is of real value to all builders, since it also applies to barns, garages, service buildings, wayside stands, gasoline stations, and various industrial and commercial buildings. It is important because most buyers of this type of building want size and number of rooms and not elaborate cellars, expensive heating plants or finely finished interiors. Structures of this type were limited to five year mortgages with monthly payments frequently beyond the ability of the purchaser. When a building of the size desired was built to all-year specifications for longer financing, the price was then higher than the prospect would consider.

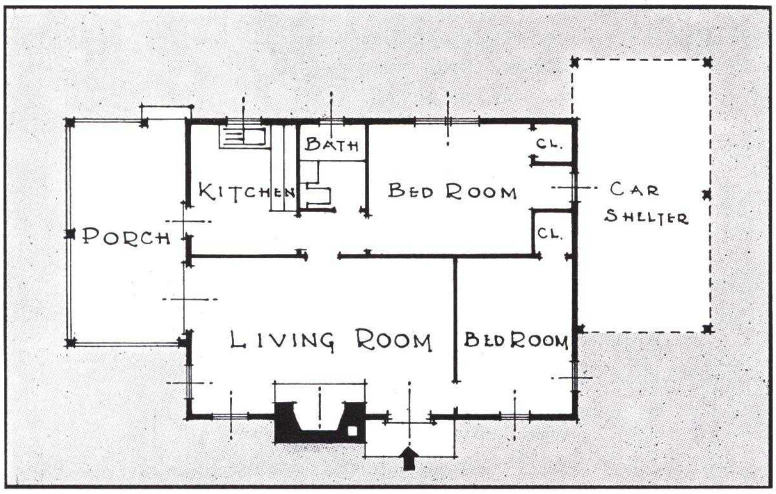
The third factor and the one that should account for the largest gain to the developer and builder is the cheaper financing now available on all year homes, under the



DESIGNED FOR A SLOPING LOT, this floor plan puts the porch toward the lake, where it should be, with doors leading to kitchen and spacious living room. Cellar provides 2-car garage, heater room and recreation room.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 177





"COSY" IS THE WORD for this charming white Lake Mohawk cottage with its screened porch at one end and car shelter at other. It is a splendid example of high value at low cost. Plan scales $1/16'' = 1'$-$0''$.

6-FOOT FIREPLACE dominates the commodious living room. French doors open onto the screened porch, which also has a door leading to the kitchen so that the porch can be used for dining. There are 2 good bedrooms with large windows. The car shelter is an attractive feature which adds to the appearance of size without increasing cost greatly. The cubage is 10,070 cu. ft. Interior walls are knotty pine. Exposed rafters are of hand-adzed chestnut.

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Tru-Cost FIGURES FOR THIS HOUSE ON PAGE
177

amended Title II. In addition, the lower percentage of cash required and the longer term of mortgage on $6,000.00 to $10,000.00 buildings will increase the number of people who can afford to buy homes.

Cottage Specifications

The four cottages illustrated with this article demonstrate the care and study given to Lake Mohawk cottages to provide modern comfort and livability and yet retain an informal, and sometimes rustic, air. Each cottage is especially designed for its site, with large windows placed to take advantage of the view. Porches are studied with particular care to provide maximum use. Experience has shown that most people want to dine as well as practically live on the porch, and for that reason a door should lead from it to the kitchen as well as to the living room.

Unusual effects are achieved by the use of hand-adzed chestnut for both interior and exterior timbers and by other natural wood effects, such as log slabs set on furring over building paper as a roof material. A brief summary of the high value specifications of the cottages illustrated follows:

LOG CABIN, PAGE 58—Weyerhaeuser 4-Square lumber, Bosman & Casson millwork, Standard plumbing fixtures, J-M Flexboard, Vulcanite portland cement, McCune cinder block, Rome wire, 3-ply roofing paper, Chase copper, Lawco medicine cabinets, Unique sash balances, Cabot's stain and creosotes, built-in kitchen cabinets with linoleum counter-tops by Congoleum-Nairn. Studio living room is of solid log construction chinked with Kellistone chinking. Balance of house is of frame construction with half-log exterior. Interior is finished with knotty pine. Roof is built of log slabs set on furring over heavy Flintkote building paper. Interior door frames of solid chestnut timbers. Cubage 12,368.

ALL-YEAR COTTAGE, BRICK FRONT, PAGE 59—Weyerhaeuser 4-Square lumber, Thorn steel casements, warm air heating system, Cabot's stains and creosotes, J-M Flexboard interior. Exterior is of rough siding given grey creosote stain. Trim is white with blue shutters. Bath and kitchen walls finished in Flexboard with chrome moulding. Cubage 17,411.

WHITE COTTAGE WITH TRELLIS, PAGE 60—Weyerhaeuser 4-Square lumber, Maltese Cross clear red-cedar siding, double-hung windows with Unique balances, interior walls knotty pine with exposed rafters of hand-adzed chestnut, Standard plumbing fixtures, Flintkote roofing. Cubage 10,070.

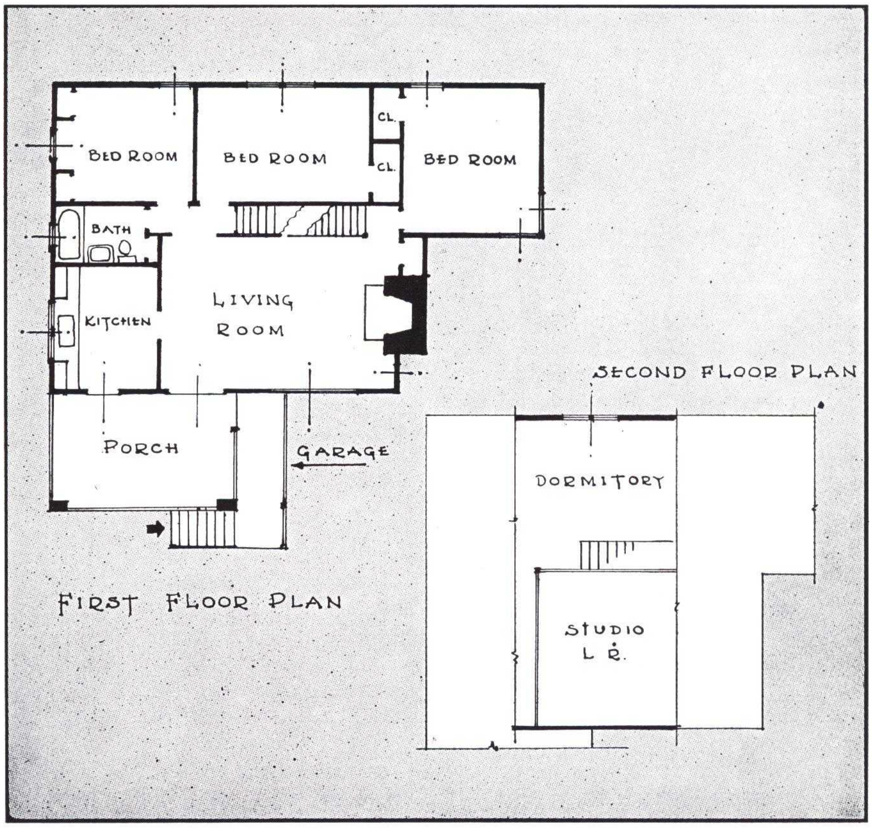
STUCCO LAKE HOME, PAGE 61—U.S. Gypsum Oriental exterior stucco, Flintkote roofing, Vulcanite portland cement, studio-type living room with picture window and large balcony, porch accessbile from kitchen for dining, corner window in bedroom. Hand-adzed chestnut timbers and rough siding used on **exterior. Cubage 16,574.**

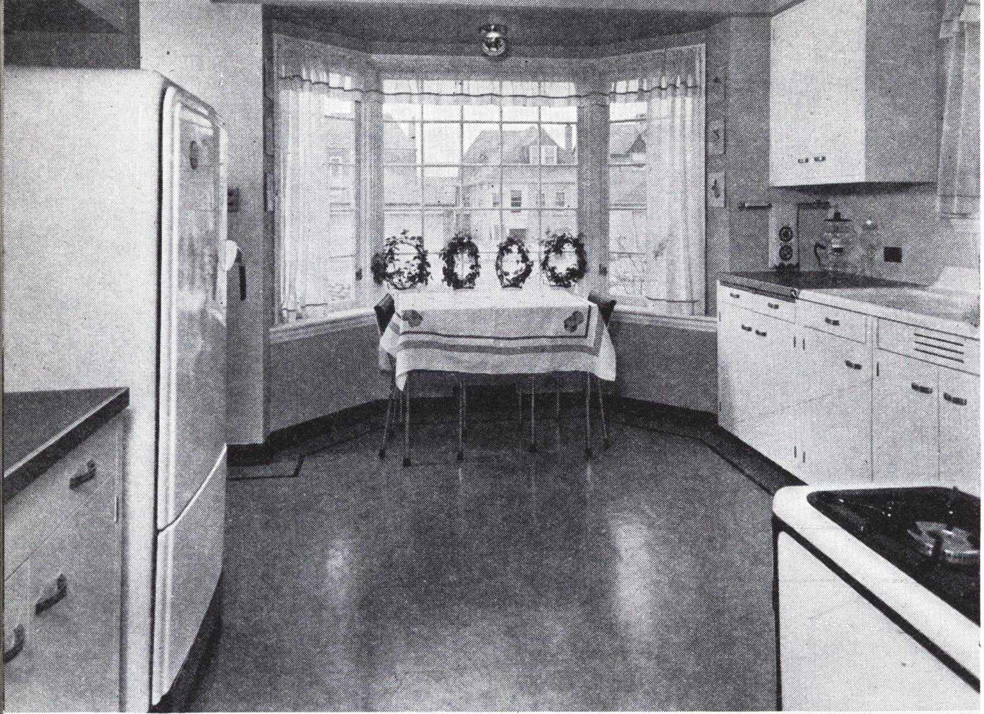
BUILT FOR SUMMER OR ALL-YEAR USE, this Mohawk cottage has large picture windows and an especially attractive porch with open walkway. The corner bedroom window is popular. Exterior is of stucco, with hand-adzed chestnut timbers and rough-sawn chestnut siding.

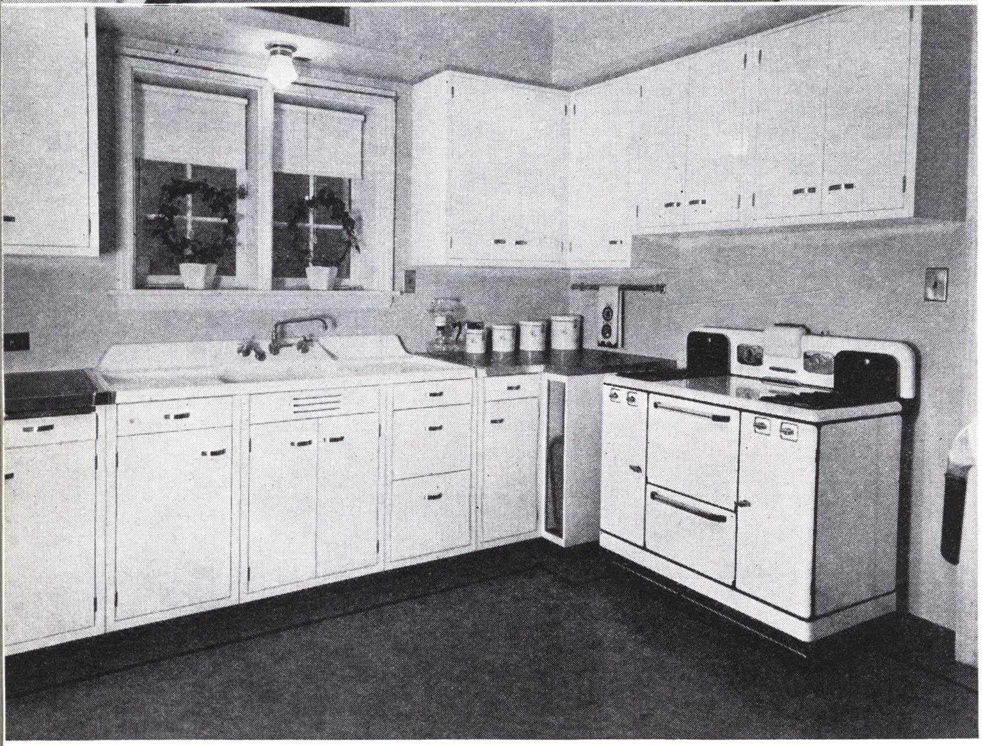
Experienced Builders Give Higher Value In Lake Mohawk Cottages

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 177

IN ADDITION to the 3 bedrooms on first floor, there is a large balcony reached by stairs from living room, with adjacent dormitory space. Living room is of studio type, with picture window and interior walls of pecky cypress. Garage is under porch. Cubage, 16,574 cu. ft. Scale 1/16" = 1'-0".







New Standards Are Built into

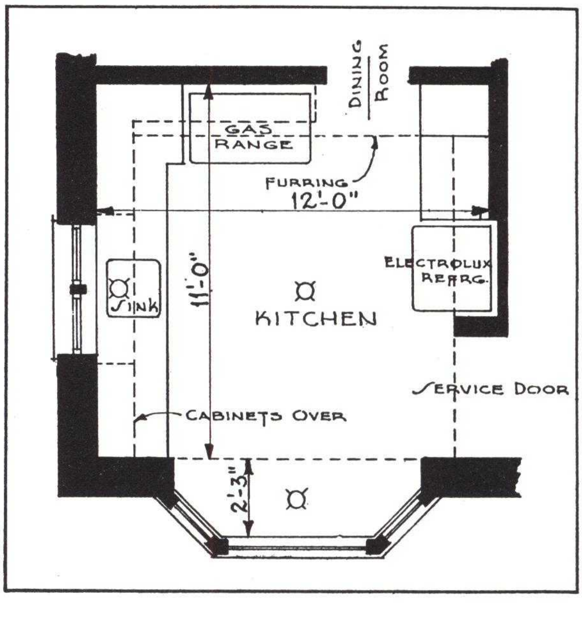
Better Kitchen Planning, Improved Materials and Co-ordinated Equipment Contribute to Make This Room a Center of High Efficiency and Beauty in the Better Modern House

IN THREE exhibition homes recently opened in various sections of Chicago by the Peoples Gas Company, the progress made in kitchen planning during the past few years is amply demonstrated. Although the three kitchens as built and shown on these pages present the latest in planning and arrangement, the base dimensions and forms follow those of the average kitchen; careful design and the specification of modern equipment are responsible for their being pleasant and efficient rooms.

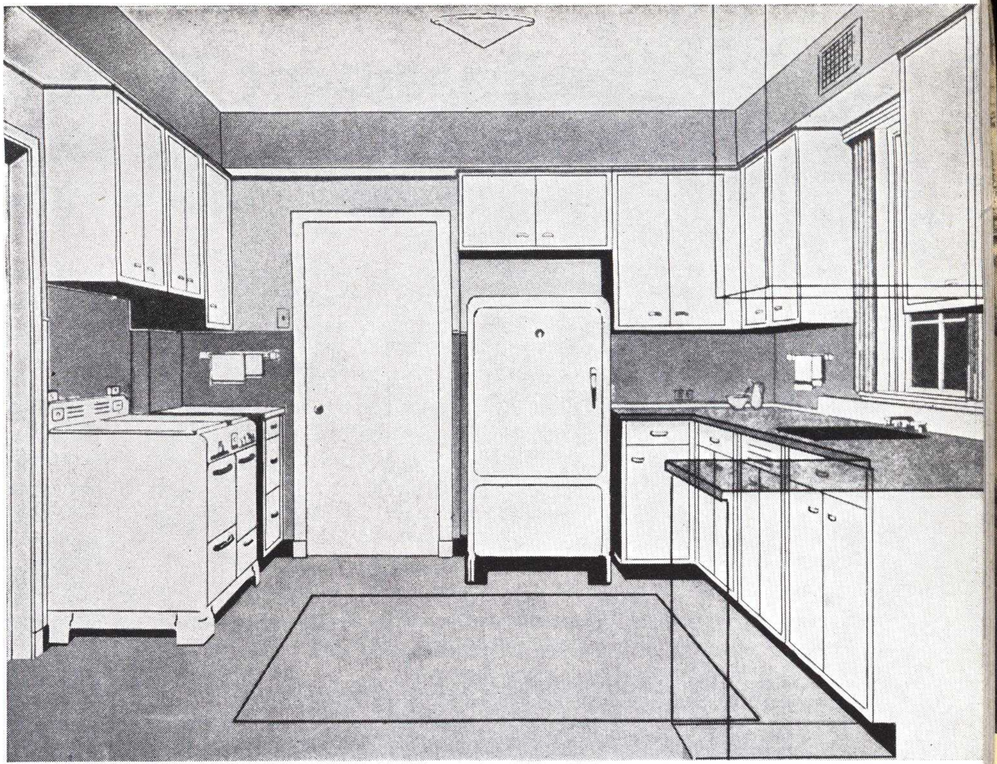
Bright, cheerful color is a feature of these kitchens. The attractiveness appeals instantly to housewives who spend a good portion of the day in this "workshop" room. The schemes for walls, floor covering and trim were carefully selected—one is done in harmonious shades of brown, the second in blues and the third in greens; bright contrasting color accents further set off the trim appearance of the equipment items.

ABOVE: Two kitchen views of the Peoples Gas Company demonstration home located in the Galewood section of Chicago. Upper illustration shows the inviting spot provided for daytime meals. The well lighted sink and work center appears in the lower view; an interesting feature is the tray storage space between stove and sink. The planning is the work of Architect T. Clifford Noonan, Chicago.

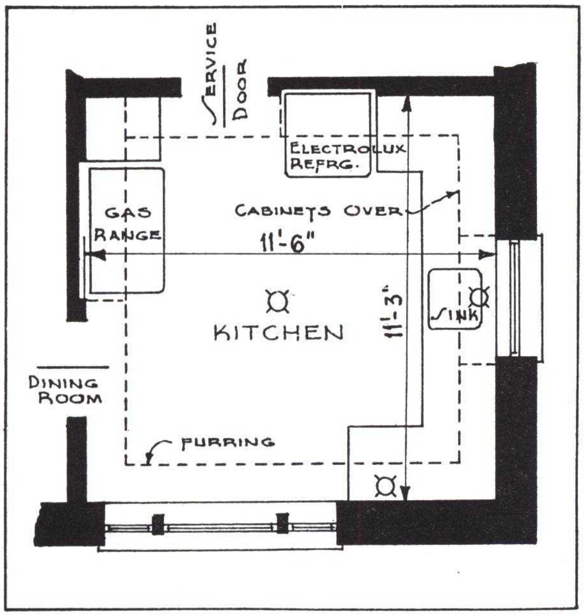
IN THE KITCHEN above, a bay window provides a cheerful space for a breakfast set. Directly opposite, as indicated in plan at right, is the door to the dining room and to the right, a vestibule leads to the rear entrance. The "production line" starts with the refrigerator. Adjacent counters, which are again carried out to the left of the gas range and flanking the sink, aid the housewife in saving steps—saving time and energy both in preparing the meal, and serving it in the dining room. This kitchen and the two shown opposite offer numerous ideas to planners interested in the latest features which combine to give 1938 styling.



# of Convenience Today's Kitchen

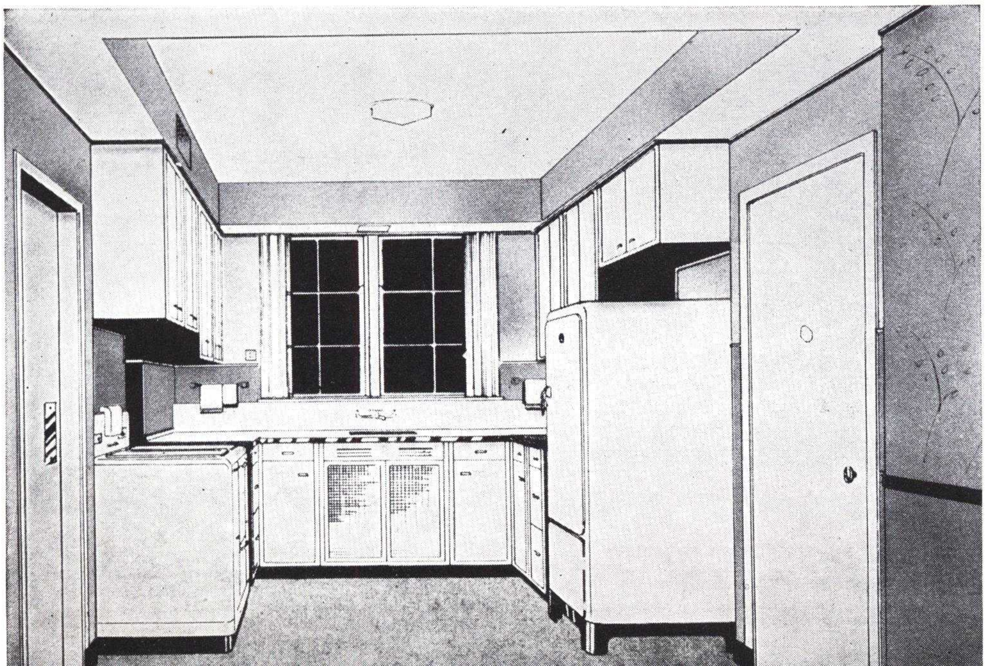


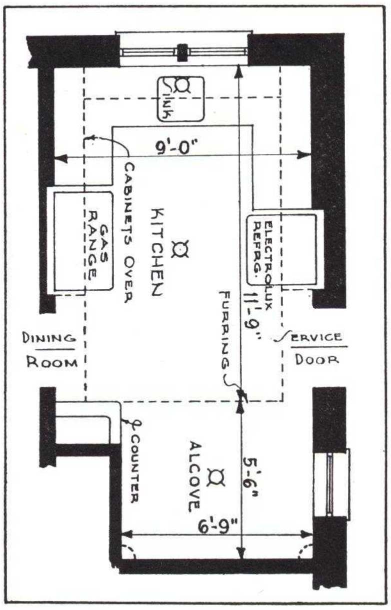
THE KITCHEN at the right with plan shown below fairly sparkles with the atmosphere of modern home efficiency. The sketch shows the room as viewed from the large east window. Here, in the strong morning light, a table is set for the meals of lesser importance. Again, the floor space is essentially the same as in thousands of kitchens. Preparation counters are arranged however to meet the line of travel toward the dining room at the left. The door at the rear gives direct access to the front hall and to the side entrance. This feature alone has been one of the most popular ideas ever developed into the design of small homes. The phantom lines show how the counter and upper cabinets are carried around to the east window. The low back splasher at the sink affords extra valuable window light.



BELOW, the popular "U" shape is applied to kitchen design. This kitchen as seen in the plan is divided into two distinct parts—kitchen and breakfast nook. The side entrance is at the right with a direct aisle to the dining room door at the left. It may be said that production starts here with the "tradesmen's entrance," followed in line by the refrigerator and around to the gas range which adjoins the dining room door. An extra large double window supplies light directly over the sink and is reflected by the smooth enamel surfaces of the cabinets.

LEFT: "L" type plan of kitchen sketched above allows great working convenience; designed by Architect Elmer William Marx, Chicago. BELOW: "U" shaped plan offers compact arrangement of work center at one end of kitchen; designed by White and Weber, architects, Chicago.





This Basement Won First Prize

Chicago Coal Merchants Award $2500 in Local Basement Modernization Contest

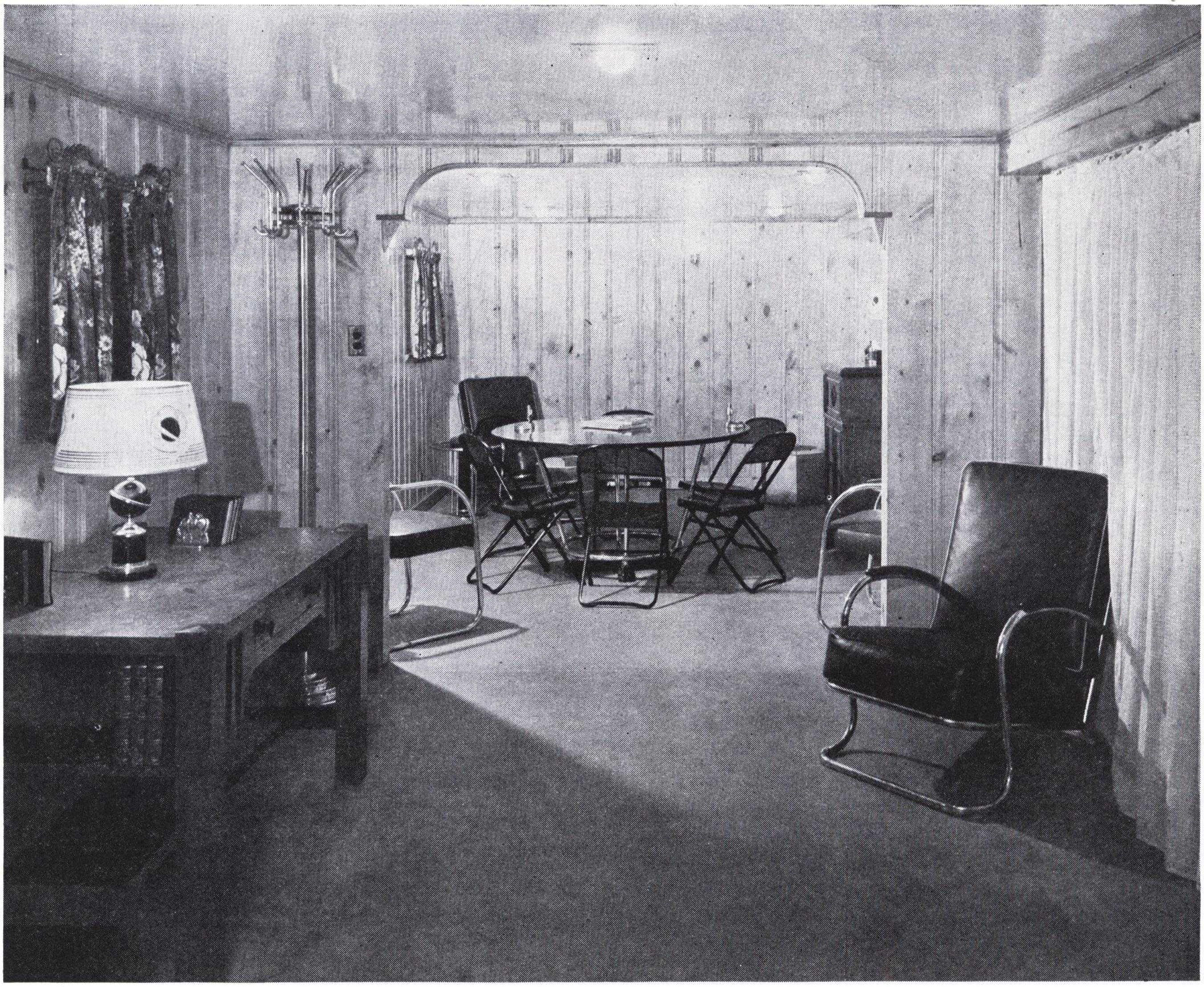
THE Henry Thiele basement at 5403 Kammerling avenue, Chicago, has been selected as the most outstanding of approximately 200 entries in the modernized basement contest conducted by the Chicago Coal Merchants association in the metropolitan area. Thiele was awarded the first prize of $1,000 at a luncheon planned by Joseph D. Biety, president of the association. Other prizes ranging from $500 to $25 were also awarded, making twenty-seven in all for a total award of $2,500.

The Thiele basement, the judges found, effectively combined ingenuity and practicability and was outstanding on the major points considered—livability, extent of usefulness for the whole family and the assimilation of new, modern ideas on basement arrangement. Like other basements entered it met the requirement which called for the use of coal or coke as regular fuel.

Appropriately furnished are two large rooms—a library and card room—in the Thiele downstairs area. The walls are of knotty pine, with an arched entrance leading from one room to the other. Up-to-date lighting, modernistic furniture, judicious use of drapes and a polished floor all lend the proper touch. Among its other conveniences are a shower bath compartment and a coal heating plant employing bin-feed type of stoker.

Other entries displayed a wide variety of uses being made of basements. Some have been converted into play spaces for children, social gathering places, athletic quarters, buffet corners, recreation centers for adults and youngsters, and quiet retiring dens for purposes of study or relaxation.

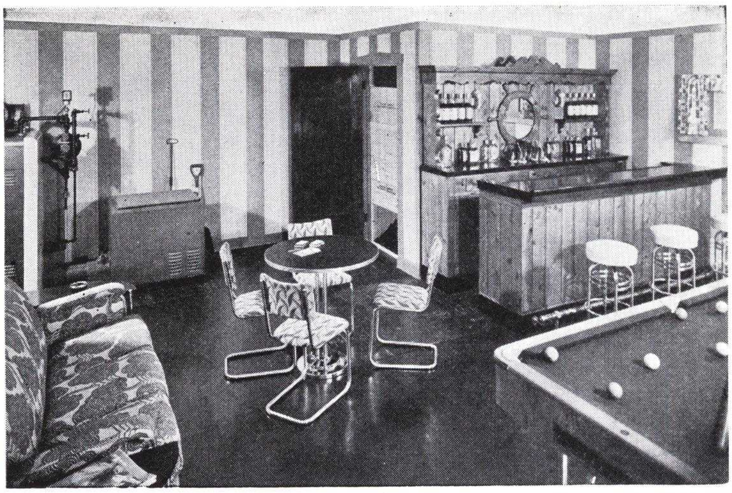
The $2,500 prize contest was inaugurated, according to Biety, for the purpose of creating a greater consciousness on the part of home owners toward basement modernization. The appropriateness of having home owners combine basement livability with the use of a clean up-to-date coal and coke product, he said, was felt to be of enough importance at this time to broach the subject in concrete form—a prize contest.



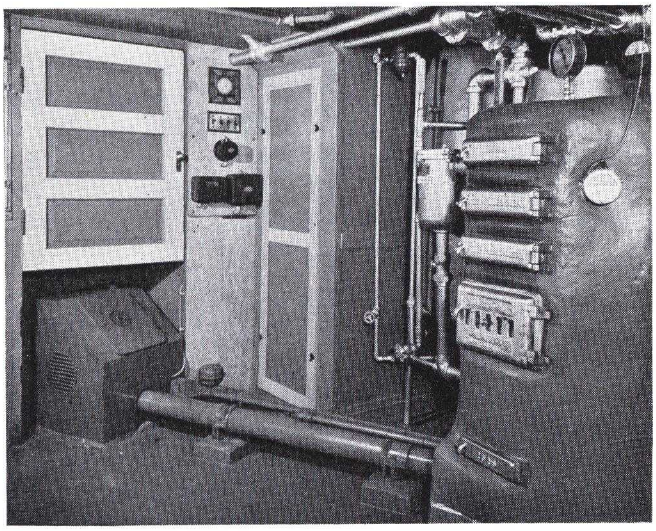
FIRST PRIZE for a modernized basement in Chicago area went to this Henry Thiele job; library and card room as on floor plan opposite.

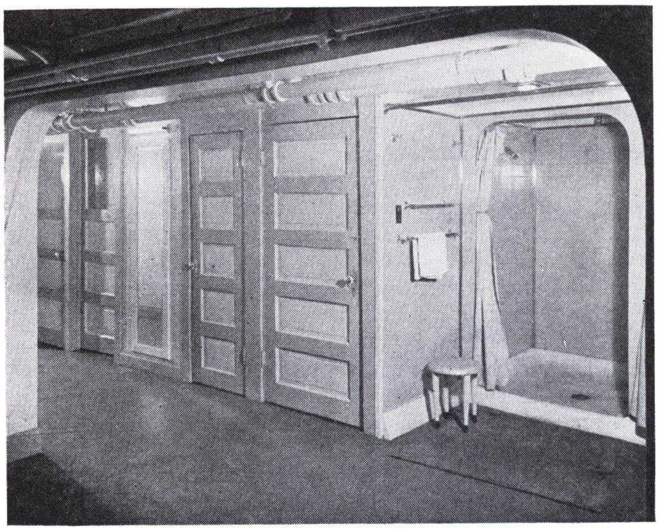
The Chicago Coal Merchants Association has also recently opened a permanent "clinic" on basement modernization; a ground floor display room along famous Michigan avenue has been transformed into a two-room, ultra-modern basement, attractively decorated with Celotex ivory and tan finish plank, and completely equipped with up-to-the minute furnishings.

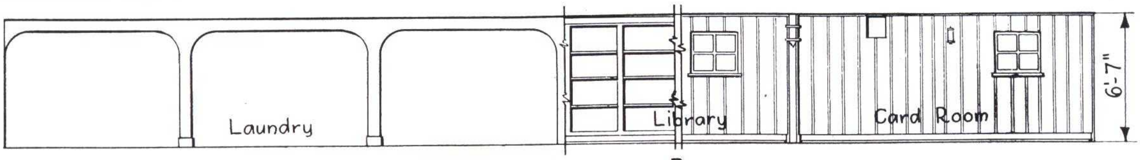
Several firms cooperated to provide this exhibit where dealers in the Chicago area can demonstrate how the basement of any house can be made a livable part of the home. Space for the model basement, which is visible from the street, was supplied by the Bell & Zoller Coal Company; the Bishop Lumber Company of Chicago furnished the Celotex finish plank and Texbord to frame the display window; the coal stoker was installed by the Link Belt Company; a combination ping-pong and billiard table, and a buffet-bar were supplied by the Brunswick-Balke-Collender company; while the Howell Company furnished the rooms with sparkling chromium furniture.



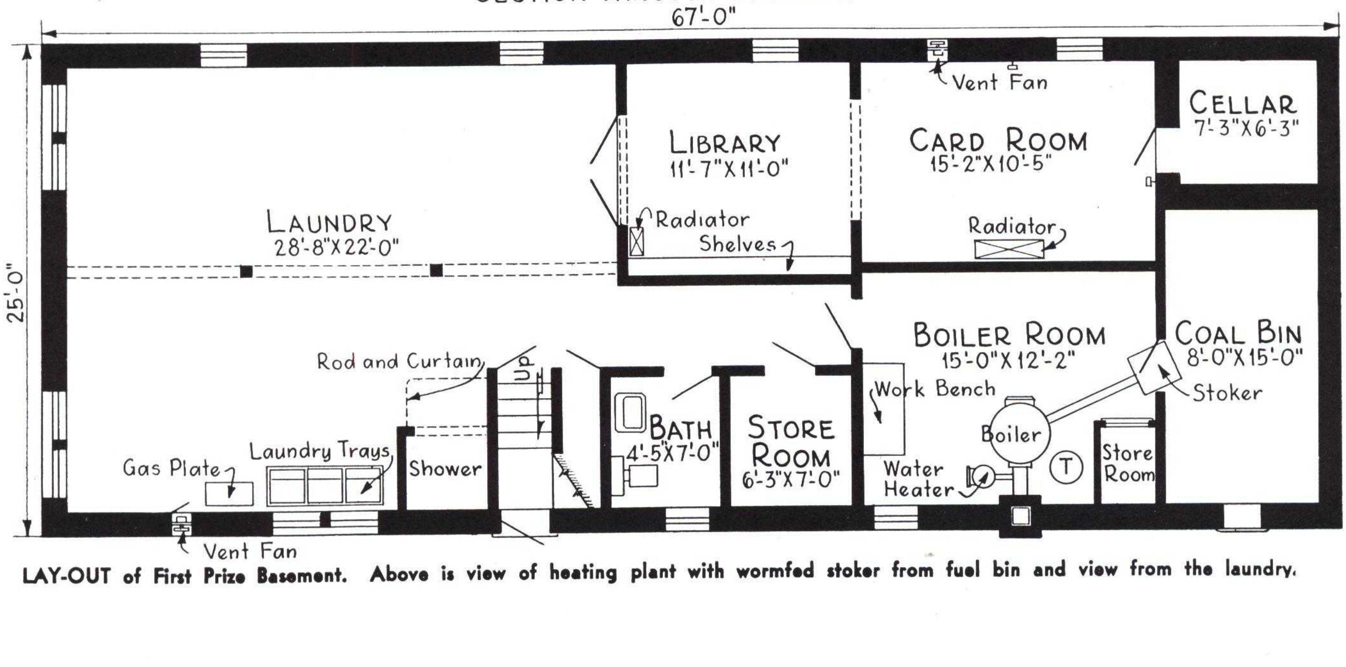
COAL DEALERS in the Chicago Area use basement modernization "clinic" (above) in Association offices to show home-owners how basements may be easily transformed into livable rooms. With coal stoker, Celotex walls, games, buffet-bar and chromium furniture, the appeal is general.







SECTION THROUGH BASEMENT



LAY-OUT of First Prize Basement. Above is view of heating plant with wormfed stoker from fuel bin and view from the laundry.

Planning Saves on Plumbing Costs

By H. E. GOSS,
Manager Plumbing Sales, Crane Co., Chicago

THE young man who built a boat in the basement of his home and then had to tear the house down to get it out has a counterpart in home building construction. That counterpart is the home builder who doesn't plan his plumbing installations until the construction is pretty well advanced.

The importance of this too common circumstance comes into special focus at this time when most of the sharp-shooting artillery of the building industry is trained on the problem of cutting home construction costs. And certainly the fundamentals of economy are not being observed when there must be last minute compromises—often elaborate—to meet the wishes of the home builder in such an important regard as where and how his plumbing fixtures will be located.

There can be but one result of this sort of planning or, rather, lack of planning. The originally low cost of plumbing installation soars unnecessarily high. Shocked by this sudden onslaught on his pocketbook the home builder does just what he should not do—tries to cut costs by installing cheap fixtures in his bathrooms, powder rooms, kitchens and laundries. The net result—from a plumbing standpoint—is dissatisfaction and waste.

It is true enough that the architect and contractor cannot be blamed for the eccentric and obdurate whims of a client. If he insists on having a bathroom flung to some distant and barely accessible part of the home, entailing extensive piping, there is only one thing to do and that is to do the best under the circumstances. But such a situation should not be allowed to transpire without the client being made fully aware of the difficulties and expense he is bringing upon himself.

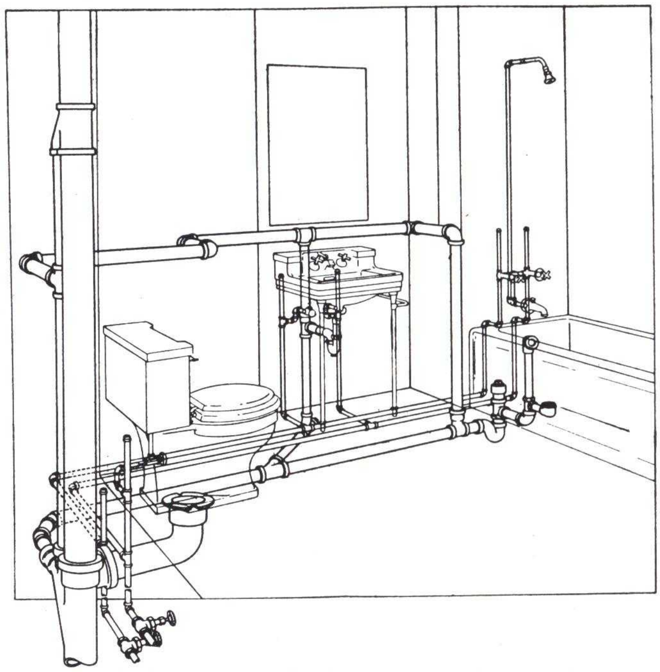
The remedy for all this confusion and excess cost in plumbing installations obviously is adequate planning—planning which anticipates the client's needs and which observes best building practice.

Every architect and contractor has portfolios of evidence testifying to the difficulties which ensue when plumbing is unplanned. One of the most common nightmares of plumbing installation is delay in planning arrangement of bathroom fixtures. If the client delays final determination of these arrangements until the last minute obviously such fundamental members of the house as joists cannot be so placed as to accommodate drain pipes and traps to the best advantage. In many instances this delay has been disastrous. In order to run drain pipe from fixtures these important cross members sometimes are weakened to the point of a structural defect.

There are other considerations in this matter of planned installations of plumbing which cannot safely be ignored by the home builder. Proper planning will, for one thing, insure anticipation of and protection against the danger of frozen pipes. Properly planned plumbing will arrange hot water pipes to function with a minimum of heat loss and, therefore, with a maximum of economy. Proper planning will see that cold water pipes do not inadvertently become carriers of warm water because they, through error, are placed close to uninsulated hot water piping.

Without adequate planning many home builders might overlook the fact that, as a rule, it's a good idea to put the lavatory opposite the entrance door and near a window if possible. Many home builders might be unaware of the accepted belief that it is not wise to put a bathtub under a window, especially if it is in combination with a shower. A certain amount of seclusion for the water closet, generally regarded as advisable, may not occur to the home planner unless he has adequate guidance.

All these are matters which planned plumbing will take into consideration whether it's a bathroom, kitchen, powder room or laundry. The net result is heightened satisfaction for the home owner—and an economy which he might not have thought possible.



A MODERN bathroom of the less expensive type. While many plumbers would feel that a more simple system of piping would be satisfactory here the diagram illustrates the complexity of piping installed to meet the maximum code requirements in a city district.

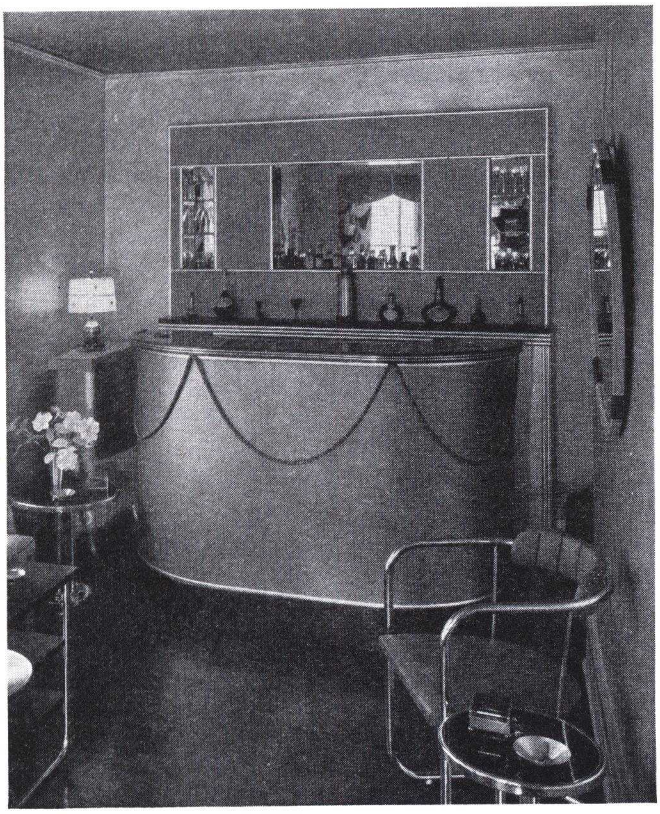
KNOTTY Pine wainscot with Early American type stairway as built about 1700—very popular today in Colonial homes.

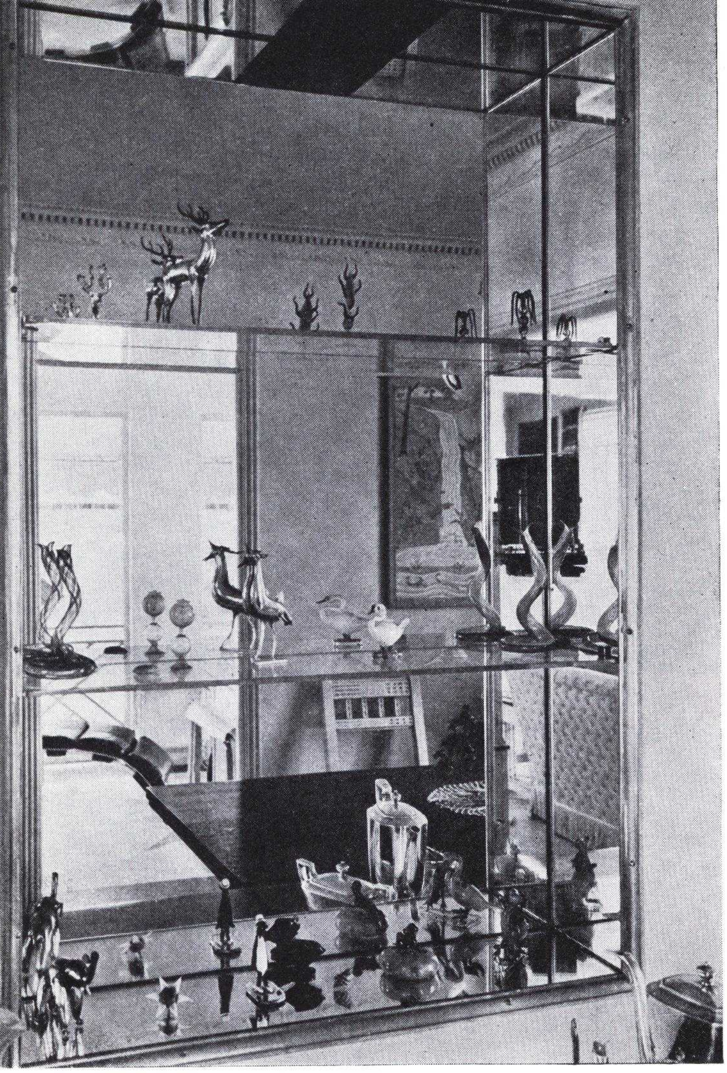
Home Interiors— Stair Halls and Basements

Plenty of sales appeal here!

ABOVE; Basement recreation room in Gas Model Home, Beverly Hills (Chicago). BELOW; Entrance and stair hall in this same home; John J. Mangan, Builder; White and Weber, Architects.

BELOW; Bar in a Montclair (N.J.) home has scorch-proof, alcohol-proof Bakelite top and moderne lines suitable for recreation rooms.





MIRROR lined alcove with glass shelves, a strong decorative note.

Built-in Mirrors Build Up Profits For Builders

BECAUSE the public appreciates that mirrors, both for decorative and utilitarian purposes, can do so much to lift a dwelling above the average and make it an attractive, inspiring place in which to live and entertain one's friends, builders have an unusually good opportunity to increase the salability of new residences by incorporating built-in mirrors in a variety of ways.

An essentially new type of home has come into existence, one that features more and larger windows, but the increased use of glass by no means is stopping there.

The widespread vogue for mirror-topped tables and incidental mirrors on the wall have aroused new appreciation of mirrors, so that the home with built-in mirrors as standard features are compelling magnets for the house-shopping family.

Everywhere, glass is receiving recognition to which its beauty and practical utility entitle it, not alone as a building material but as a decorative medium ideally suited to express the moods and phases of a new era in gracious living—especially in dwellings costing $6,000 or more.

It is interesting, therefore, to take a hypothetical blueprint trip through a proposed dwelling to see what can be accomplished with built-in mirrors designed more quickly to arrest the eye of the prospect and convince him or her that here indeed is a home that reflects all the things they have previously sought.

Let's start in the living room, where, for instance, contact between the family and the outside world is a major consideration.

Windows . . . Picture Windows, those generously proportioned expanses of polished plate glass that frame one's favorite view and make it seem a marching mural on the wall; corner windows, brilliantly glazed surfaces meeting at right angles, that brighten interior corners where shadows used to hover . . . such identify today's modern home.

In that setting, cleverly conceived built-in mirrors may readily become the central decorative motif of the living room. A large plate-glass mirror, circular or square, plain or colored, installed over the mantel not only adds cheer and spaciousness, but can reflect an inviting outdoor vista, add light and create a picture pattern for the wall.

A woman, entering the bare room of a new house, is immediately stimulated by such a focal point and her imagination instantly conceives what can be accomplished with rugs and furnishings in place and their arrangements influenced by the over-mantel mirror . . . from a sales standpoint, it is important to realize that such a built-in feature tends to make her think in terms of that particular house.

Other Uses That Appeal to Women

A full-length plate-glass mirror built into the entry door can do much as a decorative and practical feature. Every woman yearns for such a mirror for she wants to be correctly attired, whether leaving the house or to welcome friends . . . and a full-length mirror gives her a quick, final opportunity to scan herself before opening the door . . . to check the angle of her hat, the set of her grown or to see if hosiery seams are straight.

In the dining room, a built-in niche, with glass shelving and the back and sides mirrored, can do much for the room. The lure of china and crystal, placed on glass shelving, is doubled when guests see them once in their places and again reflected in their brilliant background.

Other niches, whether small or large, but lined with mirrors of clear polished plate glass, will set off prized possessions of the occupants to their best advantage, whether it be the dining room, den or recreation room.

A full-length plate-glass mirror in the master bedroom door can hardly be matched for practical usage, or built-in full-length mirrors for doors leading into a clothes or linen closet or for doors to a built-in bed compartment.

It goes without saying that a full-length mirror in the bathroom door is one of the most popular features of today's really modern homes, and often one of these may well be just the touch that decides a sale.

Some builders report unusual success with the practice of incorporating a built-in mirror around three sides of a recessed bath-tub. In such an installation, it is well to consider the possibility of using peach or blue plate-glass mirrors.

All in all, the virtues of built-in mirrors for cheer, decoration and utility and their possibilities to increase "sales appeal" are so many that to overlook their value is to neglect the most effective media available today.

Consider, for instance, mirrors that completely frame a fireplace to lift a living room to distinctive individuality; and such small but highly practical applications as mirror panels for wall light switches—sparkling little spots of brilliance as well as an effective means of eliminating finger smudges from the wall; mirror panels between two windows to create an arresting illusion of one double glazed surface. And don't overlook the effectiveness of a mirrored push plate on the door to the kitchen.

The old bromide used in referring to a magician and his tricks—"He does it with mirrors," can have a most significant meaning for the alert builder.

TruCost

Reg. U.S. Pat. Off.

A Reprint of Articles from "American Builder" Explaining the "TruCost" Estimating System and the "TruCost" Figures for Rapid, Accurate, Local Pricing Published with each and every Home Design in "American Builder" from May 1938 on.

American Builder's New Estimating System

UNIT quantity survey figures for every house design illustrated in *American Builder* starting with May 1938 have been accurately computed according to *TruCost* system; and these figures are tabulated in each issue for the information of building industry men who can combine these fixed quantities with their variable local unit costs to determine quickly and accurately the cost to build any one of these illustrated designs in any locality regardless of variations in labor rates, materials costs or changes in specifications.

Basic explanation of this *TruCost* system is presented in this Reprint by A. W. Holt, well known estimating authority and inventor of this new method of home costing. Other articles make clear the further possibilities of *TruCosting* will follow in this series.

The basic idea of *TruCost* is simple. Instead of the customary detailed and itemized Bill of Material often involving two or three hundred separate items, the *TruCost* survey covers the job more accurately with only 20 to 30 units of surface measurement, linear distance and piece count. The building contractor, architect and materials dealer are shown how to compile and verify their own local costs for each of these *TruCost* units. Then, when anyone—*anywhere*—wants a bid price on any one of these illustrated designs, it is only the work of a very few minutes to apply local unit price to the published *TruCost* unit figures to give the complete cost to build.

Can YOU Answer Quickly?

"How much will it cost to build this house?" is the first question the prospect asks. No experienced home building editor would attempt to print an answer to this question on anything but a very limited LOCAL scale. Unit costs for labor and materials vary too much in different localities, and there are too many local variations in methods and materials of construction, to say nothing of wide differences in mechanical equipment and fixtures, for anyone but the local experienced building industry man to take these varying factors into account and name the proper local cost to build.

American Builder believes that *TruCost* figures will prove a real help to its readers,

—*FIRST by cutting the time and drudgery of making out detailed estimates the old way.*

—*SECOND by avoiding costly mistakes through this simplified system.*

—*THIRD by assuring a proper profit on all jobs because "Overhead and Profit" are figured into every unit price.*

—*FOURTH by promoting sales and satisfied customers through the ability to quote quickly and confidently and in a way that the customers can understand.*

If any reader has neglected the recording and compiling of his local costs, this will be an excellent time to take up that important study. Arrange your unit costs to conform with *American Builder TruCost* figures and get the full benefit from this new service. Each and every home design from now on will be *TruCosted.*

ANNOUNCING TruCost Estimating Service

Reg. U.S. Pat. Off.

New "American Builder" Unit Quantity Surveys Help to Quick, Accurate Cost Pricing by Local Contractors, Builders, Architects and Dealers in Each and Every Community—All home designs in "American Builder" will carry TruCost Figures for benefit of local building men.

THE EDITORS present herewith a new feature never before offered the building public, the *American Builder* "TruCost" estimating figures for every house design illustrated in this issue so that every contractor, builder and dealer can *quickly supply his own accurate local building cost.*

This new "TruCost" system is the result of twenty years of practical estimating experience. It has been perfected and is here offered for the benefit of readers, not only in respect to the pricing of the designs illustrated monthly in the *American Builder* but also covering estimating in general, and the quick, accurate pricing based on local costs of ANY house design.

Readers will note that in each issue of *American Builder,* in tabular form, the "TruCost" estimating data are given for each house in the home design section, immediately preceding. Then, to make this matter clear, we present herewith an explanatory article by A. W. Holt, well known estimating authority, introducing this new service, and thoroughly explaining how the quantity figures published are combined with local cost data to give the complete cost accurately in every community.

This new *American Builder* "TruCost" estimating service supplements the "Cost Key" data which was featured previously but proved unsatisfactory because so many readers did not have the facilities to make use of it. In comparison, the "TruCost" service is much more simple and much more easily understandable. *It is based on accurate surface measurement of the house by the square and by count.* More accurate than an itemized bill of material estimate, this "TruCost" system is short and simple, and provides the local contractor, dealer or builder reliable and exact quantity data against which to apply his own unit costs.

The first question always is: "How much will that house cost?" To state a money price that would prove accurate for the entire country is of course impossible because of the great differences in local labor rates, material prices, and standards of construction. Some publishers have published their estimates or guesses as to what a house should cost. Such published figures always make trouble, and *American Builder* has never been willing to yield to the temptation to publish such prices, realizing the danger and the embarrassment to the local building industry whose proper function it is to quote local prices that become the basis for actual contracts. This new *American Builder* "TruCost" service will give our readers all necessary information as to the quantities required in each of the designs we will illustrate, starting with this May issue; and using these quantities the local builder or dealer quickly supplies his own unit costs to make up his accurate estimate or bid.—EDITOR.

The TruCost of Houses Anywhere

By A. W. HOLT

A PRICE tag should be attached to anything of value before it is offered for sale; because almost everyone must know the *cost* before he can buy the *value* that something may give him.

Cost and value are partners when it comes to buying or selling anything.

For 60 years editors and readers of *American Builder* have been partners in selling homes. This publication has shown the *value* of a certain home in the form of a plan. Being national in scope, that is all this publication or any widely read publication could safely do. The true *cost* of that plan in some certain locality had to be given by readers of *American Builder* in that locality.

That is as it must always be. TruCost will also be a 50-50 deal between this publication and you readers. We will give all the true cost data we can—and then all local builders have to do is to adapt it to their particular locality.

Building costs differ in practically every community; and it is easy to see why that is so. Construction practices vary everywhere. Different kinds of materials are used everywhere. Prices of material fluctuate with market changes or competitive conditions as influenced by the old but still-good law of supply and demand. Add to that the cost of labor and management because of varying wage scale, uncertainty of efficiency, quality of workmanship, and the equipment used. All such local factors make it most imperative that all dollar costs be established by local men of the building industry in their own locality.

Then there is that uncertain local factor of *profits.* This, unfortunately, is a *loss* in all too many cases and largely because of lack of knowledge of local cost factors. All too often the one who makes the most mistakes or knows the least about his actual costs is the accepted bidder on some job at a price as much as 25 per cent lower than the average submitted by competent builders. Thus, he loses money or has to skin the job; and the owner loses, or the bonding company or the creditors make good the shortage.

And the competent builders lose the job. So everybody

loses because of the failure of someone to know his ***true*** local costs.

Everyone connected with the building industry everywhere should want his competitors to know their true costs. It is always easier and more profitable to all concerned if all know their business. The *American Builder* is furnishing this new service of quantity surveying to help attain that end.

To state under a certain plan that it will cost $5,000 to $8,000 would be absolutely meaningless. For, if gold door knobs were wanted, it might cost from $50,000 to $80,000—depending on the size of the door knobs!

And the actual cost of $5,747.50 for a given plan in some certain locality by some certain builder is not only meaningless to every other reader, but that dollar cost may be the monkey wrench that smashes the selling machine of everyone where building costs are higher because of *variable* local factors.

Price tags can have a dollar price crossed out and a lower price shown. But who ever saw a price tag on anything where the new price in red was higher than the old black price which had been crossed out? That's what published dollar costs may be in many localities.

No, a dollar cost is of no value whatsoever to anyone.

But a *means* to a *true* dollar cost in any and every locality will be most helpful to all concerned. The means for accomplishing this is now made available to all readers of *American Builder* in the form of the *TruCost* quantity survey data.

What TruCost Is

TruCost is a means of determining true building costs for anyone in the building industry anywhere who will do his part by establishing his own true local unit costs.

TruCost is based on actual requirements for any specific house. Actual surface of walls, floors, roof and other flat surfaces; actual linear feet of partitions and cornices; actual number of doors, windows and all other actual *units of construction.* This puts only *part* of the "tru" in "TruCost" though. The other part must be supplied by each user of TruCost in the form of true local unit costs.

In the table of *TruCost* Figures in each issue of *American Builder* is given the actual *quantity* of units required for each home design illustrated in that issue, as will be done in future issues for plans shown therein. Simply multiplying the number of units given by one's own true unit price will give just as true a cost for some portion of a home as is possible by any method whatsoever.

For instance, if this tabulation shows 9 squares of floor for a certain house, and anyone knows that his typical floor construction costs, say, $30 a square, the entire floor unit of that house would cost 9 x $30, or $270. And that would include everything that was included to make the local unit cost of $30 per square. If $30 is material only, $270 would include material only. If $30 per square includes labor and material, that's what $270 will provide for the entire floor.

And don't forget "O & P," which means overhead and profit. If included in the $30, it is included. If left to be added to the total cost of all the component units of a house, it may be forgotten. Those who forget to add a profit should forget to submit a price.

How to Compile Local Unit Costs

All that *American Builder* can do to help its readers determine reliable unit costs will be done. As a starter, frame construction data is given in this issue. Brick, tile, brick and tile walls, steel, tile, concrete and all kinds of floors, and all other standard types of construction will be covered in subsequent issues.

More and more operative builders, contractors, lumber dealers and their employees who are imbued with a genuine desire—yes, a *determination*—to get ahead in this world, are being converted to the same idea that occurred to me on Aug. 8, 1915. That's 23 years ago since the thought occurred to me: "If someone would only compile some tables that would give the exact amount of studdings. floor joists, ceiling joists, rafters and other framing materials of various sizes and for the usual variety of spacings, I could easily add the sheathings, floorings, sidings or any other 'covering materials' and compile a most reliable price per square of *exact* surface."

"Why not?" I said to myself. I can still see myself when that presumably bright idea occurred to me. So I hustled back to my office after supper and started to find out if it could be done. By two o'clock that night I was just as positive that my theory was possible as I was that I was alive. I was just as convinced in my own mind then—23 years ago—as I am now. And that is 100 per cent. Many doubted my theory; but results told the story.

The same basic principles used then are still in effect after more than twenty years of proof by test by thousands of dealers, contractors, builders and others of this building industry in all parts of the country, as will now be explained in detail.

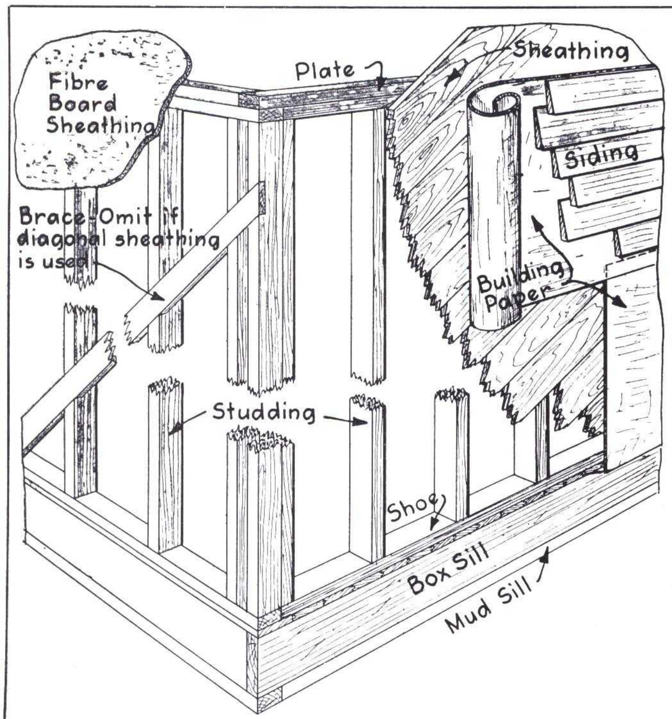
Definition of "Square"

The term "square," as applied to estimating building costs and to various materials, such as roofing, means 100 square feet of superficial area or flat surface.

Just as 100 pennies equal one dollar, so do 100 sq. ft. equal one square. Furthermore, whether the pennies are placed to form a rectangle 5 pennies by 20 pennies, or a square 10 x 10 pennies, so can one square of surface be of any dimension equivalent to 100 sq. ft. of surface. If 800 pennies equal $8.00 and 1472 pennies equal $14.72, so do 800 sq. ft. equal 8 squares, and 1472 sq. ft. 14.72 squares. Pointing off two places of square feet gives the squares in hundredths.

Lumber manufacturers usually do not split quarters in making up their price lists or quoting a price per M (1000) bd. ft. Many dealers sell that lumber at prices of even dollars per M bd. ft. And most estimators I know do not split tenths of squares in listing the total squares of surface. For example, 798 sq. ft. is called 8 squares, just as 803 sq. ft. is also listed as 8 squares, 805 sq. ft. 8.1 sqs.; 1492 sq. ft. is called 14.9 squares although many would jump it to an even 15 squares. The law of averages favors a slight gain because 1, 2, 3 and 4 give four losses as compared to the five gains of 5, 6, 7, 8 and 9. Having done so for more than 20 years, I shall continue to list squares in even tenths. Think how much easier it is to multiply 8 squares by a price per square than it would be to wear oneself out by three multiplications and one addition necessary to multiply by 7.98 squares.

Since 1 sq. yd. equals 9 sq. ft., dividing 100 sq. ft. by 9 gives 11-1/9 sq. yds. per square. Decimally, it is 11.111111111+ sq. yds. per square. This is a concrete illustration that there is no such thing as absolute accuracy, especially where the human equation is involved. Call it 11.1 sq. yds. per square. Being all "ones," plaster at 60 cents per sq. yd., or per "yard" as it is usually termed, becomes $6.66 per square; 65 cents per yard equals $6.50 plus $.65 plus $.065 or called $7.22 per



MATERIALS REQUIRED PER SQUARE OF FRAME HOUSE WALLS (W)

W-1	Framing, 2 x 4 studs 16" oc, 2 x 6 mud sill, and 2 x 10 box sill as illustrated	107 bd. ft.
W-2	Same except studs 24" oc.	95 " "
W-3	If 2 x 8 box sill deduct 3 bd. ft.	
W-4	If single 2 x 4 plate deduct 7 bd. ft.	
	Sheathing (openings not deducted and 5% added for waste)	
W-10	Boards	105 bd. ft.
W-11	8" Shiplap or D & M (7¼" face)	116 " "
W-12	6" " " " (5¼" ")	121 " "
W-13	4" " " " (3¼" ")	130 " "
W-20	Paper—Figure 110 sq. ft. per layer.	
	Wall Finishing (10% deducted for openings)	
W-30	4" Bevel siding exposed 2¾"	131 " "
W-31	6" " " " 4½"	120 " "
W-32	8" " " " 6½"	111 " "
W-33	10" " " " 8½"	107 " "
W-34	4" Rustic (3¼" face)	111 " "
W-35	6" " (5¼" ")	103 " "
W-36	Shingles, price per square less 10% for openings.	
W-37	Stucco, 11.1 square yards per square.	
W-38	Brick Veneer, 650 brick per square (10% liberal to cover chipped brick and angle iron lintels)	
	Nails, figure 10 lbs. per square.	
	Paint, divide gallon price by squares covering capacity and add 10%.	

Fig. 1. These items are included in "Square of Outside Wall" in TruCost figures.

square as compared to \$7.222222222+ when multiplying by the exact 11-1/9 sq. yds. per square. Besides, 11.1 can usually be multiplied mentally. Let's save ourselves when the law of averages proves that we will gain just a trifle in the end.

Therefore, a "square" equals 100 sq. ft. and 11.1 sq. yds.

Code for Item Numbers

Observe how all items of Fig. 1 are prefixed with the letter "W" which means "Walls." Also that the numbers 1 to 9 inclusive are reserved for framing, 10 to 19 inclusive for sheathing, and all items higher than 30 will permit of more than enough alternates for wall finishes. This permits inserting other items as new materials are added without changing old item numbers.

The value of this code will be apparent when TruCosting a special plan in a prospect's home. The code W-38 instantly shows that brick veneer was figured for the walls. This saves time and makes the record complete for future reference. Doing the same for the "F" items for first floor, "SF" for second floor, etc., as shown in parenthesis for each table, facilitates reference in this explanation and is suggested for what it may be worth when anyone compiles his own local unit costs.

Wall Unit Costs (W)

The materials recommended per square of wall for houses are given in Fig. 1 for the construction illustrated.

Labor hours are not given in the *American Builder* TruCost system because of the great variation in quality of workmanship, efficiency of workmen, equipment used and other local and individual factors.

Observe that the allowance for waste (besides loss for matching) is given in all cases. In the case of sheathing, 5% was added for waste and no deduction made for openings. In the case of exterior wall finishes, 10% was deducted for openings and the excess openings and frieze is allowed for waste. These quantities have been used for years by many individuals and firms but occasionally some changes are made. The judgment of each user of TruCost should govern.

From this table anyone familiar with material costs can quickly and easily jot down his own local unit cost of materials as shown by Fig. 2. This could be a reproduction of anyone's own copy to hand to a typist for typing, on blank sheets for one's cost data book.

Materials most generally used should be listed first and alternates given below as illustrated. Observe how the "difference" per square is shown after being determined, as follows:

The W-1 item for No. 2 framing materials at \$45 per M figured to \$4.82, which is \$.53 less than \$5.35 extended a few lines above it, hence "minus .53." In like manner, \$6.00 for the W-31 item is "minus \$1.77" because \$6.00 is \$1.77 less than \$7.77 originally extended.

Walls for Houses – Per Sq.

Standard Specifications			Mat.	Labor
W-1 Framing #1	107	\$50	5.35	—
W-12 Sheathing #2	121	40	4.84	—
W-20 Insulboard Paper 22%+8		3.00	.66	—
W-32 Siding 3/4x8 Clear	111	7.00	7.77	—
Nails	10	5¢	.50	—
Paint 44% of gal		4.00	1.76	—
			20.88	
15% O&P			3.14	
Standard Walls Per Sq			\$24.02	

Alternates

W-1 No 2 Framing		@45	4.82	\$.53
W-31 1/2x6 Cl Sdg	120	50	6.00	-1.77
W-36 Shingles #1		5.00	4.50	-3.27
W-30 Brick @30.00 + 4.00 mortar \$34x650 = 22.10			7.77 =	+14.33

Fig. 2. Typical memo of local costs as jotted down to have typed. All prices shown are for purpose of explanation only and should be changed to conform to local costs.

The 15% for overhead and profit is disregarded although, technically, it should be added to both amounts before listing the difference.

Figure 2-A illustrates how anyone may work out his own looseleaf cost book. The typed figures represent the constant factors and the script the variable price per 1,000 board feet and per square. These figures should be made with pencil so they can be changed with the fluctuations of material prices. Once one has set up his basic tables, it is but a few minutes' job to change prices. The entire page shown by Figure 2-A required only 15 minutes to type and make ready for pricing and extending the prices per square. The code numbers refer to the basic table given in Figure 1, and a few minutes' study of these two tables should make this clear. Note the line provided for overhead and profit for contractors. This is variable, of course, but by including it in one's unit cost, it cannot be forgotten for the job. And that really is important.

The $19.49 shown for Standard Specifications is basic and variations for alternate specifications are given below. For instance, code "32" for alternate specifications shows that 8″ siding costs $3.39 (shown as "+ $3.39") more than $19.49; so adding $3.39 to the basic cost of $19.49 gives $22.88 per square. All prices given are arbitrary and have no relation whatsoever to material prices, even in the same community. It depends upon the proximity of raw materials; for instance there are places where brick veneer costs little or no more than siding. All prices are given for the purpose of explanation only and it is up to each user of *TruCost* to use his own local material prices and his own local wage scale.

OUTSIDE WALLS
PRICE PER SQUARE GROSS SURFACE

CODE	MATERIAL	BD. FT.	PRICE	AMOUNT	
1	FRAMING #1 Fir	107	50	5	35
12	SHEATHING 6" #2 D & M	121	40	4	84
20	PAPER, Sunbrand, rolls	.22	3.00		66
31	OS WALL FINISH ½ x 6 #1 R.C.	120	55	6	60
	NAILS	10	5¢		50
2	PAINTING coats .44 gal.		3.50	1	54
	MATERIAL PER SQUARE			19	49
	LABOR .... HRS. @				
	.... CONTRACTOR'S O&P .... %				
	MATERIAL AND LABOR PER SQUARE				

ALTERNATE SPECIFICATIONS

CODE	MATERIAL	BD. FT.	PRICE	AMOUNT	+ OR −
3	#2 Dim	104	45	4.68	-.67
11	8" #3 SL	116	36	4.18	-.66
32	¾ x 8 #1 RC	111	90	9.99	+3.39
33	¾ x10 " "	103	96	9.89	+3.29
36	Dbl #3 RC		4.00		
	10" Exp #1 RC		5.50	4.30	-2.30
	Paint = Stain				
36	Same without stain			2.30 1.54	-3.84
	Asbestos Sgles		10.00	9.00	
−	Paint			−1.54	+.86
				7.46 −6.60	

FIG. 2-A. Typical page of local unit costs. All prices shown are merely illustrative.

Alternate Costs

As many alternate materials can be priced as may be required in one's locality. It is enlightening to know the comparative cost of various materials "per square of surface" rather than commodity units of 1000 bd. ft. of lumber or 1000 brick, etc.

Regardless of the different wall finishes shown by any design, only the total wall area is given. Individual choice may change stone to brick, brick to shingled walls, shingles to siding, etc. In any event, it is recommended that the total wall area be first figured of the predominating material desired or shown and the differential for the exceptional walls then added or deducted as an alternate.

To illustrate, if a plan shows stone for the first story in the front only and the house is 30′ wide, the stone surface would be about 9 x 30 or 2.7 squares. If stone costs $30 more per square, add $81 to the cost of the walls of other finish, or, better yet, list an alternate price that may read, "For stone as shown, add $81." Most folks like such alternate price information.

The principles for wall finishes are the same as for finish floorings where the entire first floor may be figured as standard specifications and an alternate given for a parquet flooring for the living room, linoleum for the kitchen, etc.

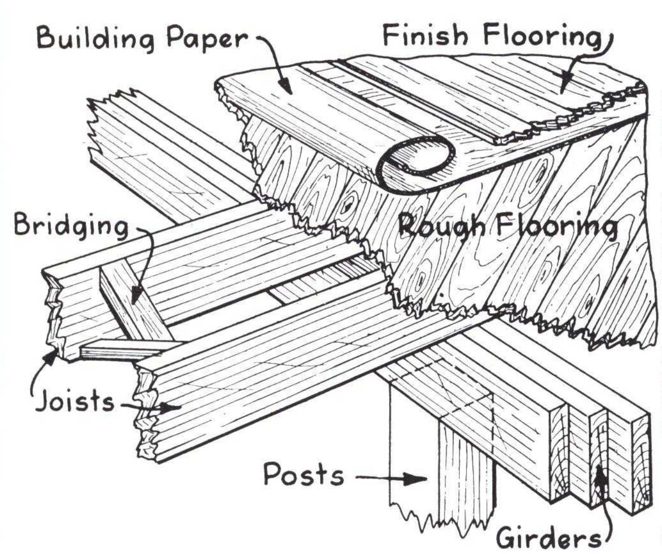
Knowing the size of a room and the difference in cost per square will give instant answers to a prospect's question about various materials. And it's such prompt and definite answers that build up confidence, and that makes good sales.

Standard and Special Specifications

Since practically every house is different, and because of the great variety of materials available these days, no house is built to any certain standard specifications. All are special if for only a change in the flooring or trim in some room. Yet all special specifications can and should be based on some standard specifications.

Framing, sheathing and paper for frame walls are usually the same for a certain builder, contractor or dealer, or for them collectively if they co-operate, so the wall finish is the main variable. Selecting the most common wall finish as the standard, it is possible to specify the materials by simply stating the exceptions. It will be surprising how seldom it is necessary to specify more than half a dozen exceptions from any standard or printed specifications in order to specify the hundred and one items that might otherwise have to be specified on a building contract.

Many firms have had for years their specially advertised names for their standard house specifications such as "Gold Bond," "Gold Seal," "100-Point," etc., so that everyone connected with that firm can describe any new sale or new quotation to others by merely stating exceptions from their standards. In the case of Fig. 2, whatever materials are included in the basic per square price of $24.02 are considered standard and all alternates are the possible exceptions that make most specifications special.



MATERIALS REQUIRED PER SQUARE OF FIRST FLOORS FOR HOUSES (FF)

	Framing, 16" oc as illustrated inc. 1 x 3 bridging	
F-1	2 x 10 joists and 6 x 10 girders	195 bd. ft.
F-2	2 x 8 joists and 6 x 10 girders	166 " "
F-3	If 6 x 8 girder, deduct	5 " "
	Subfloor (10% added for diagonal waste)	
F-10	Boards	110 bd. ft.
F-11	8" Shiplap or D & M (7¼" face)	121 " "
F-12	6" " " " (5¼" ")	125 " "
F-13	4" " " " (3¼" ")	135 " "
F-20	Paper—Figure 110 sq. ft. per layer.	
	Finish Flooring (10% deducted for walls and partitions.)	
F-30	1 x 4 of 3¼" face	113 bd. ft.
F-31	1 x 3 of 2¼" "	120 " "
F-32	1 x 2¼ of 1½" "	135 " "
F-33	2" of 1½" "	120 " "
	Nails, figure 10 lbs. per square	
	Finishing Floors, add as required	

Note: Above also apply to Second Floor (SF) cost but add fo finishing the joists for the ceiling below.

Fig. 3. These items are included in "Square of First Floor" in TruCost figures.

Labor Cost Records

Builders and contractors usually have labor records based on past performances. Architects, dealers, realtors and others of the building fraternity can consult such contractors for reliable local labor costs and thereby have reliable completed costs. By co-operation much good can be accomplished.

Labor costs based on a certain percentage of material costs must be adjusted with changes in material prices. If labor runs 50% of material costs on one job, a loss of 10% of labor will result the next time if that 50% is added to material that is 10% cheaper. If labor is figured on a percentage basis it is a simple matter to add the desired percentage to unit prices of materials.

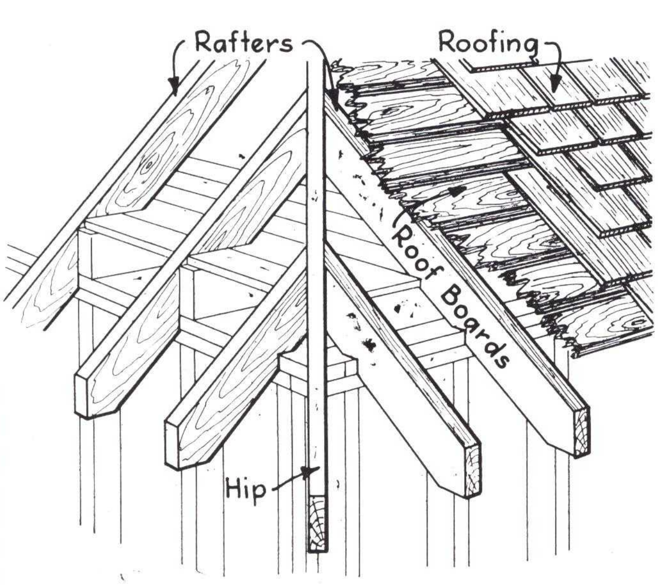
Most experienced and successful contractors seem to prefer the "hours per M bd. ft." for lumber of various kinds just as masons base labor on 1000 brick. Such records are readily adaptable to TruCost units opposite each item.

Labor on doors and windows is always based on hours per opening from records kept on various jobs. Therefore, such actual labor records can be applied to TruCost units without change. All other labor records can be adjusted to squares of surface and linear feet very easily.

When known labor costs are not available, many building reference books and manufacturer's recommendations will prove reasonably close for a job or two. But be sure to keep careful records of those jobs of all time required for framing the walls, the floors, roofs and other framing for each unit of construction. Do likewise for sheathings, sidings, and all other materials, as well as per opening of doors, windows, etc. That's how most contractors had to get their reliable labor records.

First Floor Unit Costs (F)

Refer to Fig. 3 and observe that the girders and posts are included with the joists and bridging in the cost per sq. of floor. Records on a great many jobs proved



MATERIALS REQUIRED PER SQUARE OF ROOFS (R)

	Rafters (10% added for waste and collar beams)	
R-1	2 x 4—16" oc	55 bd. ft.
R-2	2 x 6—16" oc	82 " "
R-3	2 x 4—24" oc	37 " "
R-4	2 x 6—24" oc	55 " "
	Roof Sheathing (5% added for waste)	
R-10	Boards laid close	105 bd. ft.
R-11	Boards spaced 50%	53 " "
R-12	8" Shiplap or D & M (7¼" face)	116 " "
R-13	6" " " " (5¼" ")	121 " "
R-14	4" " " " (3¼" ")	130 " "
R-20	Paper—Figure 110 sq. ft. per layer.	
R-30	Shingles—Add price per square.	

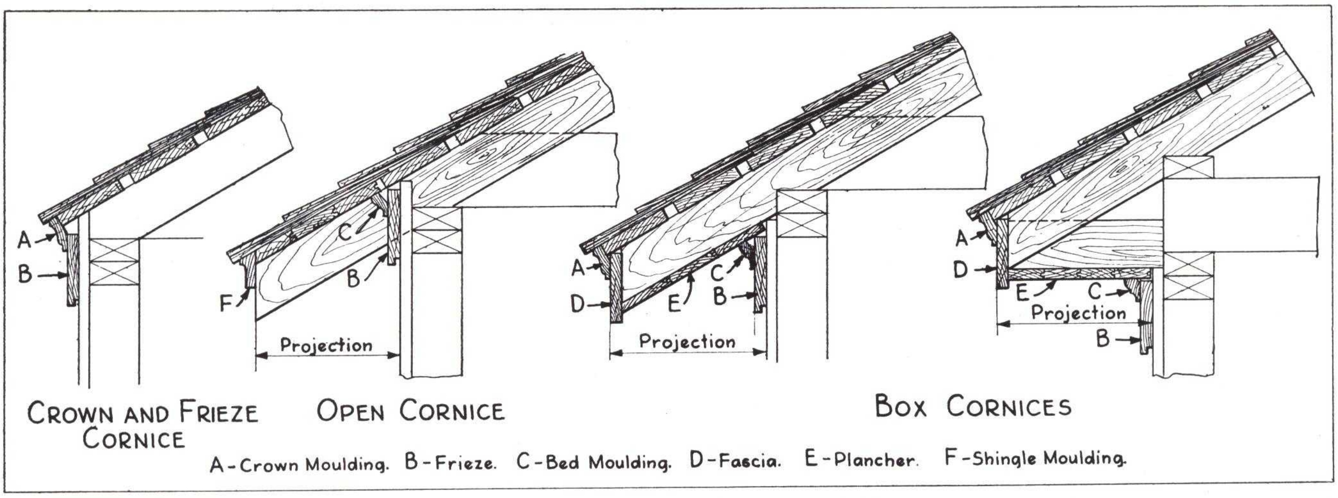
Nails—Figure 10 lbs. per square.

Hips per lin. ft.—Price of 1 sq. ft. roof, .3 hrs. labor and 1 lin. ft. hip shingle.

Valleys per lin. ft.—Same as hips plus valley flashing instead of hip shingles.

Note: Use tight sheathing for asphalt shingles and allow for cost of starting strips. If shingle stain is wanted, add to shingle cost.

Fig. 4. These items are included in "Square of Roof" in TruCost figures.



MATERIALS REQUIRED PER 100 LIN. FT. OF CORNICES (K)

10% added for waste

Measure cornices at eaves and not wall line.

	Type of Cornice	C & F	Box Cornice		*Open Cornice	
	Projection to Fascia	0″	12″	24″	12″	24″
K-1	Crown Mldg. A, lin. ft.	110	110	110	0	0
K-2	1x6 Frieze, B, bd. ft.	55	55	55	55	55
K-3	1x8 " " " "	73	73	73	73	73
K-4	Bed Mldg., C, lin. ft.	0	110	110	110	110
K-5	1x4 Fascia, D, " "	0	37	37	0	0
K-6	4″ Clg. Plancher, E, bd. ft.	0	135	270	160	320
K-7	Shingle Mldg., F, lin. ft.	0	0	0	110	110
	Paint Surface, sq. ft.	100	200	300	270	440

Compute price per 100 lin. ft. and point off two places for price per lin. ft. as given in quantity of units.

*Plancher for open cornice based on 1/3 pitch roof. Deduction can be made for roof sheathing it usually replaces.

Note: 1¼″ frieze or fascia requires ¼ more than 1″.

Nails provided by other construction units.

Fig. 5. These items included in "Cornice, lineal feet" in TruCost figures.

that any girder discrepancy would not exceed more than 9 bd. ft. per square, and that it seldom varied more than 5 bd. ft. per square regardless of the variation of judgment as to the proper placement of girders. This is not enough to justify making a separate unit of girders. When estimating other than *American Builder* plans, it may take too much time and effort to decide how the girders should be placed. And, having decided, others may decide otherwise. So do it this easy way and let the law of averages balance the slight losses and gains.

Observe that a deduction of 10% was made for finish floor items for the thickness of walls and partitions. I know that this can be done and still be safe as will be proved by comparing the net finish floor surface to the total floor area of a few houses. This, however, is subject to individual choice as are many other things in estimating.

With alternate costs for all kinds of floorings, linoleum, rubber tile, compressed fibre floors and all kinds of flooring materials, anyone will be prepared to sell by serving prospective home builders. With many floorings prefinished the remainder to "add as required" is about all the information that can be given about finishing floors.

Second Floor Unit Costs (SF)

The same quantities suggested for first floors in Fig. 3 will apply to second floors with this addition:

Add the lath and plaster (11.1 yards) or other materials for finishing the ceiling below. Some figure only 10 yards of plastering per square to allow for thickness of walls and partitions, as for finish flooring, because plaster yardage is based on inside dimensions. But 100 sq. ft. of all board insulation should be figured to allow for waste.

Since 1½ story houses do not require finish flooring for the unfinished or wasted spaces under the roof, the squares of each kind of floors is given for *American Builder* designs. As a rule the subfloor extends over the entire surface of the second floor unit in which case it is only necessary to deduct the finish flooring from the regular SF unit cost, thereby giving the same accuracy attainable by list-of-material methods. When insulation is included for all walls and ceilings, most estimators make no deduction for finish flooring but allow it for extra insulation usually involved by 1½ story houses.

The girder and posts included with the first floor joists will provide the essential item of firestopping the second floor and the scaffolding cost necessary for two-story houses. This is a recent short-cut that was adopted after completion of several jobs when FHA eliminated most jerry-building.

Ceiling Unit Costs (C)

Since ceiling joists are analogous to rafters laid horizontally, the roof tables in Fig. 4 will apply. The ceiling finishes for the second floor will take care of that, the same as the sheathings and floorings will give attic flooring *when wanted*.

Do not include attic flooring with ceiling unit costs for the obvious reasons that some plans permit it and others do not; some folks want it in the center only, others clear to the junction of roof and ceiling, and others don't want it at all because they can add it any time.

Attic floors and the attic stairs, whether stationary or patented pull-down types, required to make that attic complete, should always be considered as a special item, as noted below the quantity unit tabulation for plans in this issue.

Unit Costs of Roofs (R)

The figuring of roof areas is a subject in itself. For the purpose of establishing local unit roof costs for TruCosting *American Builder* plans, Fig. 4 will doubtless be complete after following amplifications.

Rafters are occasionally spaced 20″ o.c. and, since that is half-way between 16″ and 24″, split the difference of board footage given therefore. Likewise, rafters of 2 x 8 will require twice as many board feet per square as 2 x 4 rafters of the desired spacing.

MATERIALS REQUIRED PER LIN. FT. OF
8' 6" PARTITIONS (P)

P-1	Framing 2x4 - 8 studs 16" oc, with single shoe and double plates	8 bd. ft.
P-2	Same as P-1 except studs 24" oc	6⅔ " "
P-11	Wall Finishes—Figure material for 17 sq. ft. or 1/6 sqs., or 1.9 sq. yds. various finishing materials	
P-20	Baseboards and Picture Moulding—Figure 2.2 lin. ft. of each member	

MATERIALS REQUIRED PER LIN. FT. OF
INSIDE FINISH OF OUTSIDE WALLS

Figure half the price of wall finishes and baseboards for partitions

Fig. 6. How "Partitions" etc. are figured in TruCost.

The "10% added for waste and collar beams" may or may not conform to the judgment of all practical builders, but those who once adopt this average usually abide by it. This, like the 5% waste allowance (besides the matching loss) for roof sheathings can readily be changed if deemed best.

Hips and valleys are the only other items that may need explaining. Adding the price of 1 sq. ft. of roof—.01 of square cost—will provide for waste of sheathing and shingles. This is equivalent to letting them project six inches beyond the hip which will represent the part trimmed off and wasted. In the case of wood shingles, however, the part wasted for the hip will start the valley if sawed off, as should be done. Sometimes this is true with asphalt or other equal-width shingles.

The ".3 hours of labor" is offered only as a reminder that, when labor is included, extra labor is required to make jack rafters out of common rafters and extra sawing of sheathing. Some add the price of one linear foot of hip or valley rafters, but since waste of rafters varies according to stock length of materials, this is generally disregarded.

Valleys are inverted hips except that valley tin or, preferably, copper replaces the hip shingle. As a rule, both are figured at the same price per lin. ft. so the "Unit Quantity" shows both collectively.

The old-time practice of arbitrarily adding 5%, 10% or even more for cut-up roofs is another of the old practices that should be relegated to the junk pile. It's so easy to determine the linear feet of hips and valleys and figure as accurately as possible.

Cornice Unit Costs (K)

Quantities suggested are listed in Fig. 5 in such a way that practically any cornice can be figured therefrom. For instance, 18" cornice is half-way between 12" and 24" cornice, so the varying materials would be split fifty-fifty.

The projection of the cornice is the horizontal projection beyond the walls, as should always be done because of variation of roof pitch. And it indicates the width of the plancher horizontally to face of fascia because width of crown moulding influences projection to extreme edge of shingles.

Observe that painting surface is considerably greater for Open Cornices than for Box Cornices. This is due to the exposed rafter ends which must be painted.

Painting partly explains why contractors and builders generally figure all types of cornices, of same width, at like unit prices. The completed cost of material, labor and painting is practically the same. The fascia and difference between crown and shingle mouldings will cover the added labor for fitting the frieze and bed moulding between the rafters. And the saving of the roof sheathing for an Open Cornice will cancel the cost of the additional amount of plancher required as compared to Box Cornices.

Fig. 6 explains partitions and the interior finishing for outside walls. These must be separate units. Even in this enlightened age I occasionally find where someone includes lath and plaster with outside wall unit costs. This sets up an error to the extent of the plaster below the finish floor, the depth of the second floor joists and the area of all gables and dormers. No wonder such an estimator wonders why he checks out over now and short then.

Miscellaneous Unit Costs

Since the unit costs of all doors and windows are merely the total price of the combined members that make up the unit, this requires no further explanation other than this:

Consider all windows as single windows. In other words, a mullion window equals two window units, a triple window three, etc. The saving of trim cancels the extra cost of mullion and triple frames.

Finish hardware can be included with unit costs, as is usually done, or it can be omitted and an allowance stipulated in the specifications, as is frequently the practice among architects.

Although cased openings are listed as interior doors, if desired they can be quickly segregated. But why all that fuss? In the end actual costs will be a few dollars off anyway.

Porch floor, ceiling and roof unit costs can be compiled from the respective tables for house units. Porch beam and various kinds of porch and balcony rails are listed in linear feet and it is a simple matter to compute their per foot cost for various kinds typical in one's locality.

Porch post, brackets and other porch members usually take a piece price so it is only necessary to add labor and painting costs to have complete unit costs therefor.

Foundations and Basements

Foundation requirements for *American Builder* designs are given by the first four items of TruCost unit quantities. Most designs do not show the basement plan. Some show recreation rooms, etc. Regardless of what the plans may show, basement partitions are not listed and, of greater importance, remember this:

The linear feet of basement walls always give the *largest possible basement* under all the house except attached garages and porches; foundations for these are listed as trench walls.

Basement floors are likewise based in accordance with basement walls with a separate item for the floor of an attached garage.

Excavation is given per foot deep a foot larger than the size of the house on all sides, as is the customary practice. The trench excavation is included on the basis of 24 inches wide to allow for the usual twice-as-much cost. Multiplying by the depth of excavation required by the building site (some must fill around instead) gives the total yardage to figure.

Many of the plans shown without basements are wanted with basements; so, to simplify everything and make it easy to remember, all plans are surveyed as having full basements.

In conclusion, watch future issues for typical examples illustrating the ease and simplicity of TruCosting. Suffice now to say to each of you in the building industry who wish to have *your own TruCost* in *your own* locality—

Your own unit costs will govern the accuracy of your TruCosts, and it is interesting work to compile these and ***know your local unit costs.***

TruCost Reg. U.S. Pat. Off. FOR MR. *March American Builder*

USE THIS SPACE FOR COMPUTING AREAS

ADDRESS .... PHONE ....

PLAN NO. *Holt's Basic House* SIZE *24 X 38* ROOF PITCH *5/12* CORNICE *C&F*

STANDARD SPECIFICATIONS EXCEPT AS LISTED		UNITS	PRICE	AMOUNT	
EXCAVATION & CLEARING LOT	38 x 5' deep	190 yds	40¢		
FOUNDATION & DRAIN TILE	10"-7' on 16x8 ftg	124 LIN. FT.	2.80		
BASEMENT FLOOR	4" on cinder fill	912 SQ. FT.	16¢		
GARAGE FLOOR		— SQ. FT.			
OS WALLS	Dbl course Sgles	14.2 SQS.	31.50	447	30
FIRST FLOOR	Lin. in Kitchen	9.1 SQS.	42.30	384	93
SECOND FLOOR WITH FIN. FLG		0 SQS.		—	
SECOND FLOOR WITHOUT FIN. FLG		0 SQS.		—	
CEILING		9.1 SQS.	17.10	155	61
ATTIC FLOOR WITH STAIRS	Extra if wanted	0 SQS.		—	
ROOF		12.7 SQS.	21.60	274	32
HIPS AND VALLEYS		0 LIN. FT.		—	
CORNICE		140 LIN. FT.	27¢	37	80
PART'N		120 LIN. FT.	2.07	248	40
IS FINISH OS WALLS		124 LIN. FT.	1.26	156	24
FRONT AND OS FRENCH DOORS		1 OPGS.	45-	45	–
REAR AND GRADE DOORS		1 OPGS.	36-	36	–
GARAGE DOORS & HARDWARE		0 OPGS.		—	
IS DOORS & CASED OPGS.		10 OPGS.	18	180	00
WINDOWS		12 OPGS.	22.50	270	–
CASEMENT OR SPECIAL SASH		0 OPGS.		—	
GABLE SASH & LOUVRES		1 OPGS.	9.00	9	–
CHIMNEY & FIREPLACE	I 2,339.10	30 LIN. FT.	3.15	94	50
BUILT-IN CABINETS AS LISTED ON OTHER SIDE					
MAIN STAIRS, NEWELS & RAIL					
PORCH FLOOR		SQS.			
PORCH CEILING		SQS.			
PORCH BEAM		LIN. FT.			
PORCH POST & COLUMNS		PCS.			
PORCH ROOF		SQS.			
PORCH CORNICE		LIN. FT.			
PORCH RAIL WITH SASH & SCREENS		LIN. FT.			
BALCONY RAIL & NEWELS		LIN. FT.			
BASEMENT PART'N WITH .... DOORS		LIN. FT			
TILE FOR VEST. & BATH					
ELECTRIC WIRING .... FIXTURES					
PLUMBING					
HEATING & AIR CONDITIONING					
TERRACES, PCH. STEPS, SIDEWALKS & DRIVEWAY					
GARAGE, IF SEPARATE					
GUTTERS & DOWNSPOUTS					
PERMIT, INS., BOND, ETC.					
TOTAL PRICE					

24
38
62
2
124 A

38
24
152
76
912 B

912
124 C
27)1036(38.4
81
226
216

124
9½
62
1116 D
1178
240 - 2 B 10/24
1418

G
5
24
24
10
9
38
6
4
120

E
912
62
974
30% 292
1266

48
30%
124
16
F 140

H
18
10
2
30

A. W. HOLT offers this simple estimating form or "master sheet" for *TruCost* tabulations. The figures used here apply to "Holt's Basic House" as illustrated on page 160.

A "Master Sheet" for Estimating

TruCost is a scientific though simple system of estimating the cost of manufacturing homes on a unit-cost basis. My previous discussion has dealt in unit costs and this one presents a form (page 153) that will summarize the units that may be required to manufacture a proposed home. This serves the same purpose as a check-list to estimators who still count pieces. Instead of dealing in joists, bridging, subfloor, etc., this form simply lists each floor as a unit. When figuring one story homes, no extension is made for the second floor unit; spaces for including porch units are left blank when the plan does not include a porch. By studying this *TruCost* form item by item and then reading the explanation of all figures involved in *TruCosting* this simple "Holt's Basic House" (see design on page 160) anyone can see how he can figure any special house with assured accuracy.

First of all, one's standard specifications are supposed to be typed or printed on a separate sheet and only the variations from that standard shown for each house figured. This saves time and each user will know what his standard is or can readily refresh his memory by reference to his unit cost tabulations. Although the variations from standard could be listed according to one's code, it is usually best to write these out, as is done on this specimen form, because it is practically impossible to remember the code for all alternate materials.

All unit prices given are arbitrary for illustrative purposes only and the calculations of unit areas given in the space provided (circled letters) will be referred to as each item of this specimen is explained.

Since *TruCost* is based on actual surface measurements, the same as detailed lists of materials, the first step should always be to determine the perimeter of the building and the area of the first floor because these are basic in computing unit areas of the roof and cornice as well as most horizontal or vertical planes that encompass a house or any other building.

The Perimeter equals 24 plus 38 multipled by 2 or 124 linear feet, as shown by (A). This is based on outside dimensions and it is a simple matter to make modifications for net inside dimensions, if desired.

The Floor Area was figured at (B) by multiplying 24 by 38 feet. This is also based on outside dimensions.

Excavation is the first item listed on this form and is computed at (C) by adding the perimeter to the floor area for the superficial area of the excavation a foot larger than the house. This provides space for forms or laying up blocks. In case the soil permits eliminating the outside forms for concrete the extra time to keep the walls true will cost as much as removing more dirt. So *TruCost* always figures excavation in cubic yards per foot deep by dividing the square feet of area by the 27 cubic feet in a cubic yard. This is called 38 and at the assumed depth of 5 feet totals 190 yards of excavating.

Foundations always equal the perimeter, but when part is unexcavated, as for attached garages or porches, part of the foundation may be figured as trench walls to extend below the frost line only. This is given by referring to the perimeter (A).

Basement Floor is given by (B) unless one wishes to deduct for the thickness of foundation walls, in which case the perimeter (A) multiplied by the thickness of foundation walls IN FEET gives the net inside surface. If the foundation walls are 12 inches thick, deduct the linear feet of perimeter; if 10 inches, deduct five sixths and if 8 inches, deduct two thirds of the perimeter.

Outside Walls. The calculations are shown at (D) by multiplying 124 linear feet by 9′6″ high for 8′ studs plus box sill and double plates. Being 5/12 pitch, 5/12 of the 24 foot span gives 10 feet as the height from plates to ridge and both gables add 10 x 24 or 240 square feet of wall surface. By showing this as "2G-10/24" one can refer to this when figuring the cornice and chimney.

Roof. The 12.7 squares shown at (E) was derived by adding 124 linear feet of 6 inch roof projection outside of the walls to the floor area of 912 square feet inside and then adding 30 percent, which is constant for 5/12 pitch roofs. By memorizing "12, 20, 30, 42 and 54" as the percentages to add for roofs of 6, 8, 10, 12 and 14 inch rise per foot it is not necessary to refer to any of the many tables and roof gauges that are available. Had this been a hip roof or a three-gabled roof, the linear feet of hips and valleys would have been computed by adding 30 percent to the "run" (one half the span) as the length of the common rafters (called 16 feet) and then add 26 percent as the additional length of hips for this 5/12 pitch roof for 20 linear feet of each hip or full-length valley.

Cornice is computed at (F) and always equals the perimeter (A) plus the roof percentage of the total width of all gables, because the cornice for the gables is as much longer than the horizontal as the rafters are than their run. This was called 16 or a trifle more than 30 percent of 48 to allow for measuring the cornice at the eaves and simplify multiplying by 140 linear feet.

Partitions are listed as linear feet at (G) by listing the cross partitions first and then those running lengthwise or up-and-down on the plan as shown. Always do this and avoid missing any. Besides it's easier to list them on the basis of the outside dimensions and, if necessary, approximate the minor partitions such as "5" for the partitions "below" the cellar stairs instead of "2" and "3." Until I adopted this system of listing partitions I had to check partitions several times before I was certain of my survey.

Inside Finish of Outside Walls. This always equals the perimeter (A) for the first story. For full two-story houses the second floor requires the same minus the two sides of all one-story projections.

Chimney. The length is listed at (H) as 18 feet from the basement floor to the plates, 10 feet to the ridge as always given by a glance at gable areas at (D) and 2 feet above the ridge, for a total of 30 feet. This also applies to fireplaces. When a fireplace is wanted and the chimney omitted the addition will equal the fireplace cost minus the chimney cost.

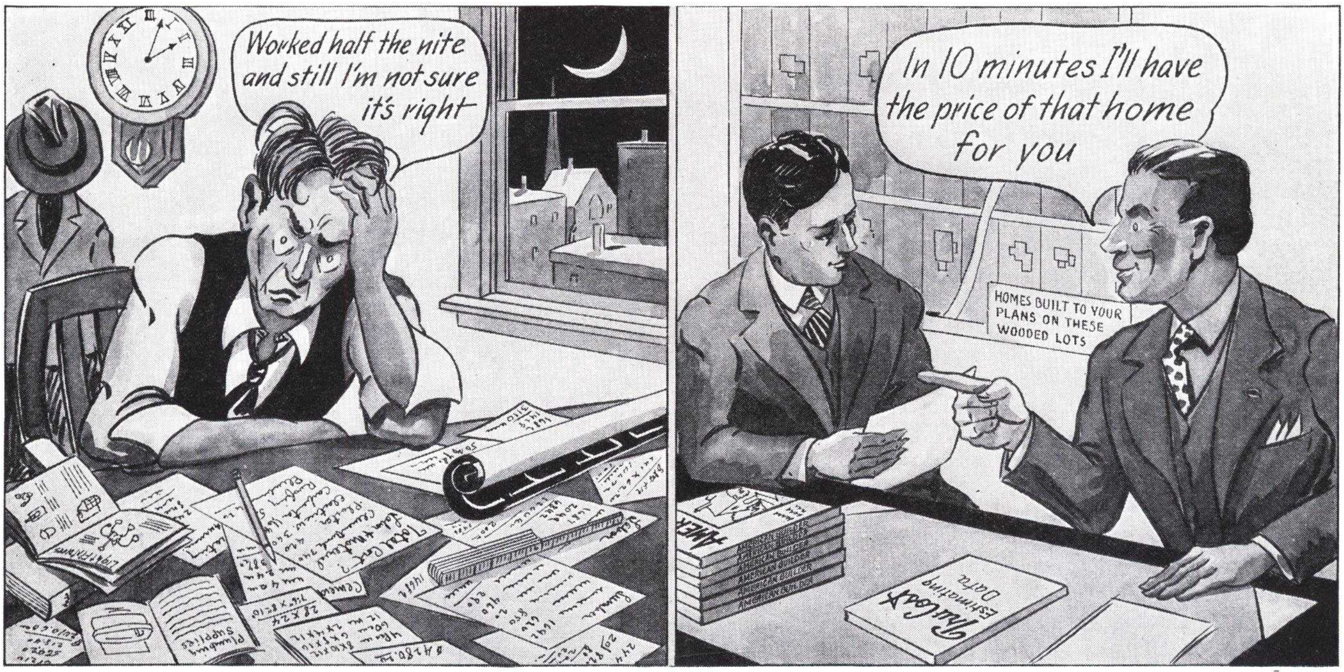
Porches. Although a porch is not shown, if a porch 8x14 is wanted, the units would consist of 1.1 squares of floor and ceiling, 30 linear feet of perimeter gives the trench wall and porch beam and, adding for the overhang and extra for gables, the linear feet of cornice. The porch roof would equal the floor area of 112 square feet, plus the perimeter (beam) of 30 multiplied by the cornice projection, plus the proper roof percentage. The perimeter of the porch is also basic for listing porch and balcony rails and are quickly figured at a unit price per linear foot. Steps are usually a part of the sidewalk contract so are listed therewith.

Gutters and Downspouts. These must be figured separately in accordance with the roof and gables, but the perimenter gives the linear feet of gutters for hip-roof houses.

Although these blank *TruCost* forms are available, the best form that anyone can use is his own. The cost of mimeographing is very low if one has too many changes to make in this stock form. Everyone I consulted wanted this or that changed and I advised all to try some form for a while and let experience dictate changes. Even then the ink won't be dry on one's own specially printed form before he will see changes he will make on the next lot printed.

TruCost
Reg. U.S. Pat. Off.

How American Builder's Estimating System Prevents Expensive Errors



"HE who makes no mistakes does nothing—he who makes too many loses his job (or his shirt)" is a truism that I shall never forget. And how well I remember an early experience when I extended an item as $12.00 when it should have been $120.00. That was on a detailed list, however, and one of the main reasons why I concluded twenty years ago that I could not afford to take chances on detailed-list-of-material estimating alone. That method is all right if anyone wishes to use the hard and hazardous ways of the pioneers in this age of speed and "precision accuracy."

The human equation of "tendency to err" will always be with all who are connected with the most important part of the contracting business—estimating costs of a proposed building—for all time. All that can be hoped for is the abandonment of obsolete, haphazard methods that befuddle one's brain and causes every estimator to say a silent prayer—"I hope I haven't forgotten anything"—when the bid is handed in. I'll bet that a certain Cedar Rapids, Ia., contractor, whom I will call Mr. Blank, will always pray that way in the future after his recent experience.

"He's Low Bidder On New City Market, But Doesn't Want Job"

The above glaring headlines on the front page of the Cedar Rapids Gazette of April 18th tell a story that is typical of many similar experiences that advertise to the world that all too many in this building industry can still be inveigled into submitting a bid on a proposed job where there is no "E&OE" inserted to protect them. This "E&OE" is supposed to mean, "errors and omissions excepted." If that is so, Mr. Blank should have that printed on all of his stationery because, according to the news report in paper:

"Mr. Blank, local contractor, was low bidder on the city's new marketplace when bids were opened Monday but he has not been awarded the contract and if he has his way, he'll never get it. In fact, he's sorry that he ever heard of the marketplace . . . offered to do the job for $1,315.00—an unusual proposition in view of the fact that the next lowest bidder was $1,953.00. . . . The seven other bids ranged as high as $2,350.00. . . . Building Inspector O. L. Leefers immediately sensed some mistake in Blank's bid because the necessary material will cost considerably more than $1,315.00. . . . Blank had a $250.00 certified check on file and under the law, strictly applied, the council could forfeit that check if Blank refused to erect the building. Inspector Leefers was confident Blank would be money ahead to forfeit the check and charge the thing to experience."

That word "experience" is, like fire, water and a lot of other things, quite necessary—in its place. But those who depend entirely on Old Man Experience to teach and direct them will have to expect to pay the high tuition fee demanded as well as take a long time to learn enough to graduate. Even a jolt like Mr. Blank had to take frequently fails to warn others that the most important phase of the contracting business is their estimating department. Estimating will make or

break contractors. Perhaps that's why it is said that more than 90 per cent of contractors go broke. Even omitting Mr. Blanks' blankety-blank bid, the 20 percent range of the other eight is ridiculous. They were listed in the local paper as follows:

Mr. Blank's bid	$1,315.00
Contractor A	1,953.00
Contractor B	1,995.00
Contractor C	1,999.99
Contractor D	2,063.00
Contractor E	2,170.00
Contractor F	2,228.00
Contractor G	2,284.00
Contractor H	2,350.00

It's just too bad that such things continue to happen in this so-called age of enlightenment. It's too bad for the good contractors as well as expensive for the bad boys that won't learn their lesson before they start to recite. It's just too bad in every way except that Uncle Sam can never claim that Cedar Rapids contractors are in collusion, nor can get them for violating any anti-trust act. But what does this lone advantage amount to as compared to the disadvantage of undermining public confidence in builders generally and encouraging prospective builders to shop around in hopes that they may find someone who knows the least about his actual costs and makes the most mistakes so they can grab his certified check and call it a contribution to their building fund with which to pay a competent builder. This common strategy was evidenced by the following excerpt from that same newspaper of April 19th:

"In a letter to the council, City Attorney Don Hines said if Blank refuses to do the work, the job can be awarded to the next lowest bidder . . . the check of $250.00 must be forfeited . . . if he fails to execute the contract and bond to perform the same." Deducting $250.00 from the next lowest bid of $1,953.00 will still make that marketplace cost only $1,703.00 or 15% less than the average bid of the other eight, which is $2,030.30.

Is it any wonder that the cost item of "bond" is so high? Why should competent builders be penalized for the mistakes of the unfortunates who, being human, are apt to err? If "E&OE" really means "errors and omissions excepted," those letters should preface all bids by a large percentage of contractors who use such short-cuts as "Cubical Contents," "Square-foot-of-floor Guestimates" or any other unsound or "lax" method.

TruCost, which was introduced in the May *American Builder,* is anything but lax. This method is based on the essential "surface measurement" and "actual count" that cannot fail to minimize expensive errors, promote confidence of everyone concerned and reduce charges by bonding companies. If such large mistakes can happen on a simple structure like that Cedar Rapids marketplace, which likely has only a floor, walls, roof and a few miscellaneous units of construction, what can happen on a house where 200 or more items are involved, each of which presents a chance to err in listing, pricing, extending and adding?

20 Units=232 Items

TruCost is ten times safer, ten times quicker and ten times easier than the old laborious list-of-material method if there is anything to the law of averages. I just counted the items listed for three houses. One had 197 items of materials as compared to 19 units of construction; another had 232 items for 20 units and the third one showed 233 items for its 28 units of construction. This last one is "The Sandusky" design of National Plan Service, illustrated herewith, which was selected because it involves an incorporated garage, porches and "fold-down ceilings." By explaining how the "Unit Quantity Survey" was made for this particular plan everyone can understand why he can have utmost confidence in *TruCost* and, what's more, can survey the units required for other than *American Builder* plans so as to safeguard the pocketbook as well as the reputation of all who submit a bid on practically any job.

As explained in my May article, *TruCost* is based on the indisputable principle that "actual surface multiplied by the accurate LOCAL COST per square of surface will give the accurate cost of each component unit of a building." Tables were given for frame construction that will enable anyone to compute his local unit cost of per square, per linear foot or per piece, as shown by the tabulation (page 59—May) of "Unit Quantities" for all May *American Builder* designs. Thus it is only a matter of simple arithmetic to TruCost a house such as the following computation of the walls:

19.3 squares of wall at, say $24.02 = $463.60.

If the wall surface is correct and the price per square is accurate, the result must be accurate if ordinary care is exercised. More than 20 years of the acid test of time and actual results have proved the dependability of this TruCost principle. So that all may understand what each of these units of construction include, each item shown beside the plan will be explained in detail.

How TruCost Units Are Surveyed

The 107 linear feet of basement walls (The Sandusky, page 11) is the outside measurement exclusive of the rear porch and the garage. This makes the largest possible basement, which will be an invariable rule even though a design may show a basementless floor plan. Personal choice and local or climatic conditions usually govern the inclusion or omission of the basement.

The 61 linear feet of trench walls is the total of 8′6″ for the rear of the rear porch, 8′6″ as the balance of the rear wall of the garage, 12′0″ in front of the garage, 27′0″ for the right wall, and 5′0″ for the front stoop. In case the basement is to continue under the rear porch as a coal room, or in case the basement is rectangular and will not project under the kitchen projection back of the garage, it is a simple matter to add to or deduct from each of these two items.

The 621 square feet of basement floor is the gross area including whatever thickness the basement walls may be. This must be because of the variation of local practice or requirements of building codes and other local factors. In case the basement walls are 12 inches thick, the actual basement floor surface can be reduced as many square feet as there are linear feet of basement walls. In this case, 107 square feet less. If the walls are 10 inches thick, deduct 5/6 square feet per linear feet of wall; if 8 inches thick, 2/3 square feet per linear foot. Many practical builders have found that this gain of basement floor will cancel the cost of the cellar sash usually required or expected. Try this cancellation and see. Cellar sash are not listed because personal choice frequently governs even if a basement plan is shown.

The garage floor was figured 12′6″ by 19′6″ for the 244 sq. ft. or, as for basement walls, including whatever the thickness of the trench walls may be. This also typifies the predominating rule of figuring on the safe side.

The 32 cubic yards of excavation per foot of depth is the result of 621 sq. ft. of basement floor plus 107 linear feet of basement wall—to make the excavation one foot larger all around—plus 122 for the 61 linear feet of trench walls figured 24 inches wide automatically to cover the usual double cost of trench excavation. Adding gave 850 square feet of excavation area which, divided by 27 cu. ft. per cu. yd. equals closer to 32 cu. yds. than 31. Multiplying by the depth required by the building site (if not filled instead of excavated) will give the yardage to excavate for this house.

The 19.3 squares of outside wall is the actual wall area with no deduction for openings. Some estimators may deduct for the garage door, triple windows and other large openings. This is also left to individual choice but, if such deductions are made, the cost per square for wall finishes should be increased at least 10 percent from that given in the May issue, which are based on gross surface.

The 6.3 squares of first floor is the result after multiplying 34 by 28 and deducting 17 for the one foot recession of the garage, 244 for the garage floor and 60 for the rear porch, leaving a net first floor area of 631 sq. ft. of first floor which, again, is based on outside dimensions.

The 4.4 squares of second floor was derived by multiplying the width of 15 feet by the depth of 29 feet. As indicated by the roof over the front door, this second floor projects a foot beyond the living room wall and 2 feet in front of the garage doors—a very good feature. Since all floor plans are drawn to the same scale and then reduced proportionately, such extensions of second floors can be detected by comparing the respective dimensions of first and second floor plans. Measure these two floor plans and see how the second floor is deeper than the first.

Even though the word "storage" indicates an attic floor over the kitchen, abiding by the invariable rule that "attic floors are extra," this is listed as ordinary ceiling which consists of ceiling joists, insulation (if wanted) and the ceiling finish. This construction is almost identical to the false partitions on the left side of these bedrooms and closets. Therefore, this partition was included in the 12 squares of ceiling, the same as is done for all "fold-down" ceilings for 1½ story houses. This makes the 8 foot finished-one-side partition to add to the 15 foot ceiling to multiply by 29 feet in depth for 667 sq. ft. of ceiling and left partition for the bedrooms. The ceiling over the first floor rooms will be 34 less 15 or 19 feet wide and 28 feet deep for 532 sq. ft. Adding to 667 sq. ft. makes a total of 1,199 sq. ft. of ceiling area, including the finished-one-side or false partition.

The diagram illustrates how the ceiling plus finish under the rafters plus the false partitions equal the same area as the total second floor area for 1½ story houses where the rafters start at the ceiling joists. Slight discrepancies will result, depending on the pitch of the

"The Sandusky"

Designed by The National Plan Service, Inc., Chicago

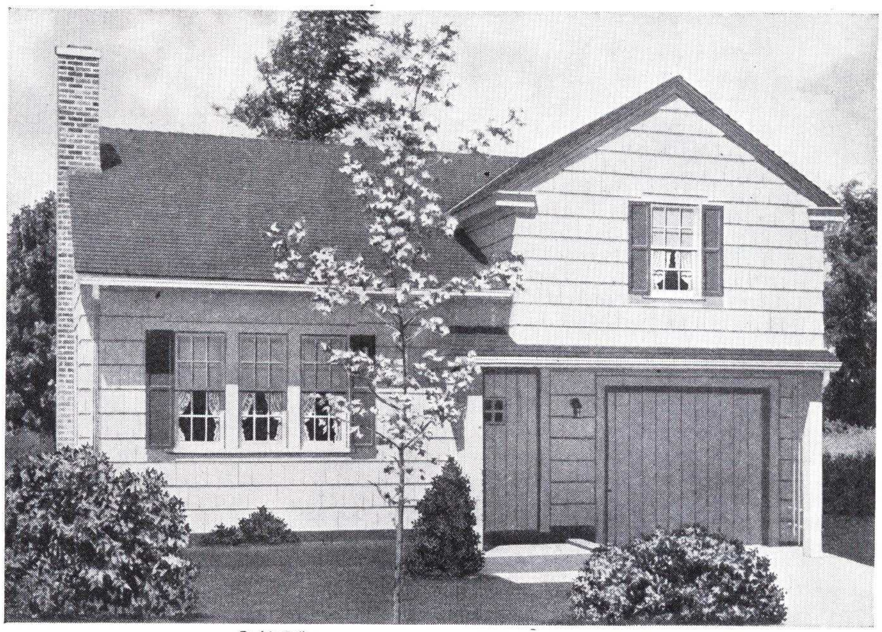
✦

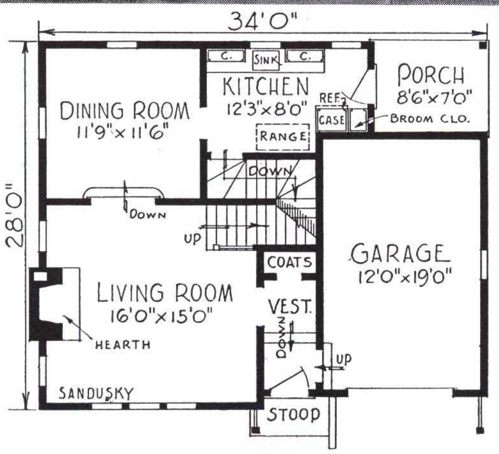
"TruCost" Estimating Figures

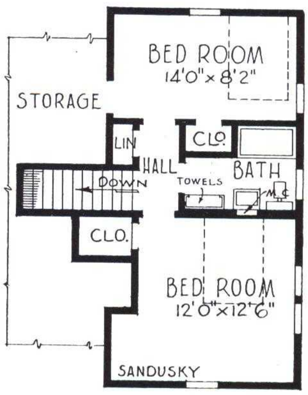
✦

UNIT OF CONSTRUCTION

Basement Walls, lin. ft.	107
Trench Walls, lin. ft.	61
Basement Floor, sq. ft.	621
Garage Floor, sq. ft.	244
Excavation per ft. deep, cu. yds.	32
Outside Walls, squares	19.3
First Floor, squares	6.3
Second Floor, with Finish Flg., sqs.	4.4
Second Floor, without Finish Flg., sqs.	0
Ceiling (Attic Flg. and Stair extra), sqs.	12.0
Roof Pitch, inches rise per ft. run	8″
Roof, squares	13.6
Hips and Valleys, lin. ft.	20
Cornice, type and size of lin. ft.	C. & F. 60
Cornice, type and size of lin. ft.	8″ 124
Partition, lin. ft.	134
Inside Finish OS Walls, lin. ft.	183
Front and OS French Doors, opgs.	1
Rear and Grade Doors, opgs.	1
Garage Doors 8′ wide	1
Inside Doors and Cased Opgs., opgs.	11
Windows and Casements, opgs.	16
Gable Sash and Louvers, opgs.	1
Chimney, lin. ft.	32
Main Stairs	1
Porch Floor, sqs.	.7
Porch Ceiling, sqs.	.7
Porch Beam, lin. ft.	16
Porch and Bal. Post and Newels, No.	
Porch Roof, sqs.	0
Porch Cornice, lin. ft.	0
Porch and Deck Rail, lin. ft.	4







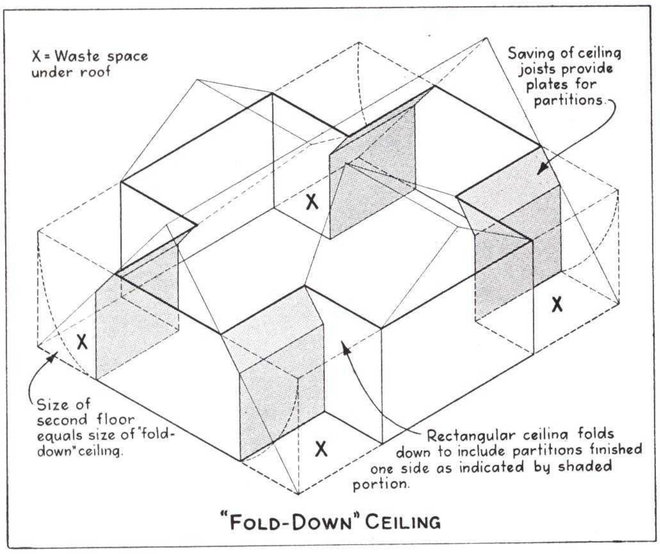


Diagram illustrates short cut "TruCost" method of figuring second floor quantities in 1½ story houses.

roof, whether dormers extend to the outside walls or are set back on the roof. But the discrepancy can never be enough to be of consequence and this short-cut has greatly simplified the figuring of the 1½ story type houses. Note how the ceiling joists saved by the rafters will provide for the plates. If 2x6 ceiling joists are figured, however, the false partitions will be figured with 2x6 studs, which are synonymous to ceiling joists placed vertically.

Inasmuch as the plan shows the garage and porch incorporated as an integral part of the house, the 13.6 squares of roof includes all roof areas shown, including the false cornice over the garage doors.

Incorporated Garages Are Finished

This plan shows the garage within the main unit of this house. Therefore it is termed an "incorporated" garage. The partition between it and the main rooms is listed as regular partition. If it is to be of fireproof or fire-retarding construction, it is a simple matter to deduct 24 linear feet from the 134 linear feet of partition listed and figure accordingly. Likewise, the 183 linear feet of Inside Finish of Outside Walls includes the rear, right and front walls of this garage with no deduction for the garage doors. Remember this is an invariable rule for such garages. It is assumed that such garages will be heated so should be finished similar to the main rooms. If not wanted, a deduction can be made from quantities given.

In the case of garages attached to the main house by a porch, as for the plan on page 8 of this Reprint, it is assumed that the garage will not be heated so the finish for the walls and ceilings is not included with the unit quantity given. Keep this in mind, as this will also be an invariable rule when plans show the garage "attached" to the main house by a porch.

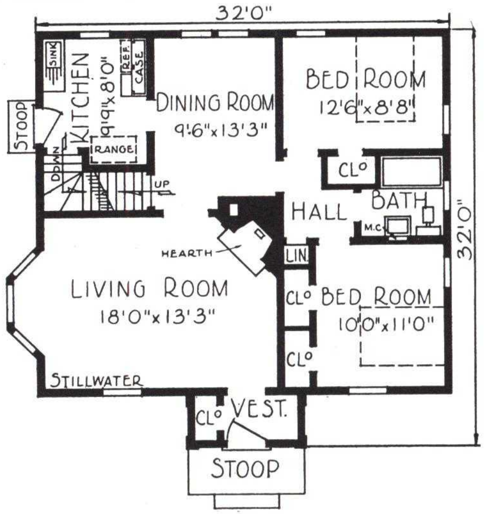
All other unit quantities will doubtless be clear with the exception of the porch roof and cornice. Being incorporated as a part of the house, the porch roof and cornice are included with the main roof. This will always be done. But when porches are "tacked on" so they can be omitted and built later, if desired, the roof and EXTRA cornice required therefor will be listed separately. Frequently part of the porch cornice is provided by the main cornice, in which case only the additional cornice required by the porch will be listed as porch cornice.

It is hoped that this explanation of Unit Quantity Surveys will leave no doubt in anyone's mind as to what they may be doing when they multiply the squares or other units given for an *American Builder* house design by their LOCAL UNIT COST. As should always be the case, each builder governs the SPECIFICATIONS by his unit costs—the plan shown governs the QUANTITY of the various quantities required to build the house. The extras listed under every tabulation of Unit Quantities will preclude omissions. In case anyone notices a possible omission of some items I shall esteem it a favor if he will advise me. What better conclusion could be given this article than to repeat from my May article,—

—Anyone who forgets to add a profit should forget to submit a price.

To that I add, it may be well to check one's bid with some friend before attaching the certified check and handing it in.

TruCost Figures on Homes Like this are in every Issue of American Builder

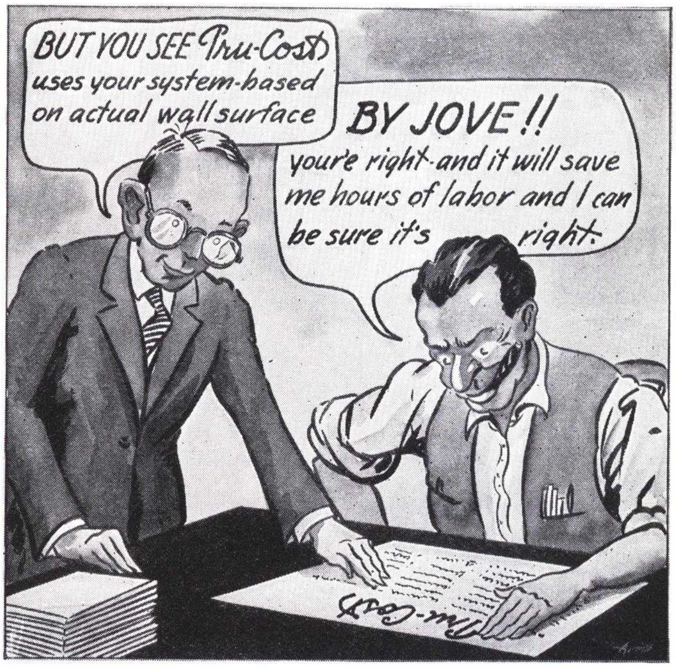


"THE Stillwater" is a good looking Cape Cod design, five rooms and bath, from National Plan Service, Inc., Chicago.

TruCost
Reg. U.S. Pat. Off.

How to Verify Accuracy in Estimating "HoltRates" Added to Service

By A. W. HOLT



THE more experienced anyone is in estimating building costs, the more he will appreciate the value of *TruCost* unit surveys that give the actual surface of walls, floors, roofs and other units of construction for *American Builder* plans. Even those who have no faith in short-cut estimating of any kind will value the tabulation of "actual requirements" given, as evidenced by the following recent experience.

After an introduction to one of the oldest and most successful home building contractors in St. Paul, Minnesota, I explained *TruCost* to him; to which he replied bluntly: "I don't think that your *TruCost* or any other short-cut system will beat my own system that I have used for years, so know that my estimates are right." He then went on to explain how some other contractor was always spoiling some deal for him by entering too low a bid. He was about as sour on all short-cut estimating as anyone I ever discussed the subject with. When he stopped for breath I butted in with the question:

"Is your own system based on actual wall surface, actual floor surface, actual roof surface and all other actual surfaces, Mr. Contractor?" to which he replied, "Of course it is—that's the only right way to figure."

"All right," says I, "All *American Builder* plans will have all of that basic data given by this tabulation. This will save you a lot of work and, what's more, perhaps save you the trouble of outlining one or more elevations to scale so as to figure the surfaces. All you need do is to apply your own method that you know is right and know that you have the right price for any *American Builder* plan. Isn't that so?"

Obviously he agreed. And he agreed enthusiastically. But, like many contractors, he evaded my questions as to what "his own system" was. Cross-examination finally forced him to acknowledge that it was a combination of several short-cut systems plus some rule-of-thumb methods that he had learned from experience. For instance, he said that he doubled the floor surface to get the board feet of joists, girders and bridging required. I asked him how he knew that was right and he promptly said that he had proved it by many years of actual experience. When I asked him if that was for 2 x 8 or 2 x 10 joist, he replied that "either one—there isn't much difference when the job is finished."

There is the answer to most of the trouble caused by the great variation in bids submitted. Architects, builders, contractors and dealers—the ABCD's of the building industry—have some pet rule that they found worked on a job or two and continued to use it with hit-and-miss results. When they're too high they blame all the others and condemn them for their bidding. When they are too low they either go broke or use that one particular letting to try to convince a prospective client that their prices are lower than everybody else's. It's a vicious circle. And it's time that systematic methods replaced rule-of-thumb methods.

After showing that St. Paul contractor the floor table on page 150 of this Reprint where 195 bd. ft. is given

for girders and floor framing of 2 x 10 joist, his face beamed the "I told you so." But when I showed him where 2 x 8 joists would figure only 166 bd. ft., or 15 percent less, and explained that these quantities were the average of a great many actual tests, he began to realize that there might be something to *TruCost* after all. We concluded our visit by my saying, as I say to everyone in the building industry who presumes to know how to estimate the cost of a proposed building:

"All right, Mr. Contractor, apply your own system to any *American Builder* home design and then try *TruCost.* It may surprise you. But be sure to adjust all the tables given to conform to your own allowance for waste. Just establish your own unit costs in accordance with your own proved methods and SEE FOR YOURSELF. In time you will know that *TruCost* is absolutely sound and ten times safer, quicker, easier and MORE FLEXIBLE than estimating by detailed lists."

This matter of "flexibility" alone is so important. So often the questions are asked, "How much for 2′ wider? —or 2′ longer?—or if this living room is projected to make it larger?" All of those questions can be readily answered CORRECTLY by simply computing the necessary additional walls, floors, roof, etc., and multiplying by one's own local unit cost.

Actual surface is the basis of two of the ONLY three accurate methods of estimating, which are the old and laborious "detailed-list-of-material" method and this safer and easier "unit system" on which *TruCost* is based. The third one is the "cost-rate" or "ratio-of-cost" principle, which is the only new principle evolved in generations and which has positively proved itself to a limited few who would "see for themselves" the past eleven years, as all others can now do quickly and easily.

Explaining "HoltRates"

"HoltRates" represent the first of the six figures that comprised the "Cost Key" given under *American Builder* designs the past five or six years. *American Builder* was the first of all publications to adopt this "ratio-of-cost" principle and then only after a most thorough investigation and recommendation by dealers, contractors and builders who had pioneered this new principle of estimating and *positively knew by actual tests over a period of years* that the law of "relativity" applied to building costs with the same degree of accuracy that it had proved in other ways for other purposes. The judgment of *American Builder* was right then and it will now be proved to all of the "Doubting Thomases" that wear out the breeching instead of pushing ahead in the collar and, in so doing, delay progress without real reason.

"I will accept new ideas when they have proved to be true ideas," seems to be the watchword of nine out of ten men in all walks of life. Life's like that. Only about ten percent of those connected with any industry seem inclined to do those things that make for progress. History proves that. Westinghouse even had to go to England to get backing for his "air brakes for trains," and Edison was scoffed at many times. That's human nature. For eleven years now, nine out of ten connected with the building industry who may have purchased one of my "cost-rate" books has sworn AT me instead of BY me. Why? In most cases it has been due to the "misappropriation" of the original cost-rate principle which I originally gave after years of "proof by test." In other words, several nationally known firms have tried to further shorten this new cost-rate principle by including the foundation, plumbing, heating, lighting, built-in cabinets and other of the "variable features" that represent "fixed costs" and have no relation to the hardest part of a building to estimate—the superstructure. Because of this misappropriation of the original formulae, I have chosen to distinguish my "cost-rates" by terming them "HoltRates." And, what's more, the challenge is given to disprove them if properly applied. All I ask is that anyone who presumes to know what reliable building costs are, see for himself.

FLOOR PLANS AND ELEVATIONS OF HOLT'S BASIC HOUSE
ONE STORY, ELEVEN MAJOR AND MINOR ROOMS, 24'x38'-8'-6" CEILING, 5/12 PITCH, C&F CORNICE.

"HOLT'S BASIC HOUSE"—See sample estimate of this house on page 153 to illustrate simple method of *TruCost* estimating.

The "HoltRate" of any house simply means the ratio of cost of that house to "Holt's Basic House," which is shown on page 50. The "HoltRate" is given as the sixth item of the *TruCost* Unit Quantity Surveys on pages 172 to 177 and to be continued each month hereafter. As stated, this includes the superstructural units of the house or the "house proper" above the foundation and exclusive of plumbing, heating, lighting, cabinet-work and other of the "variable features" listed below the tabulation as extras to be added whether *"TruCosting"* or "HoltRating" the cost of an *American Builder* design.

1.166
$2030
34980
23320
$2,366.980

These few figures represent all the figuring necessary to have a very dependable price of the superstructure. Could any method be quicker?—or easier?

Of course not. But the big question is, as it should always be, "Is it accurate?" My answer has been the same for eleven years and several hundred others KNOW that my answer can be justified when I say, " 'HoltRates' are unbelievably dependable—but prove it for yourself."

Explaining those mysterious figures, the 1.166 is the "HoltRate" for the National Plan Service design, "The Starford," shown on this page. This 1.166 means that "The Starford" costs 1.166 times as much as Holt's Basic House shown on page 160. In other words, The Starford costs 16.6 or 16-6/10 percent more than Holt's Basic House shown on page 160. In other words, The Starford is represented by the second figure or multiplier. And 1.166 multiplied by $2,030.00 gives $2,366.98 as the "HoltRate Price" of The Starford. And this is the quickest and easiest method ever devised, with the least possible chance of error. Notwithstanding my belief that "there is no such thing as perfection," this "HoltRate" method is, I believe, the exception that proves the rule.

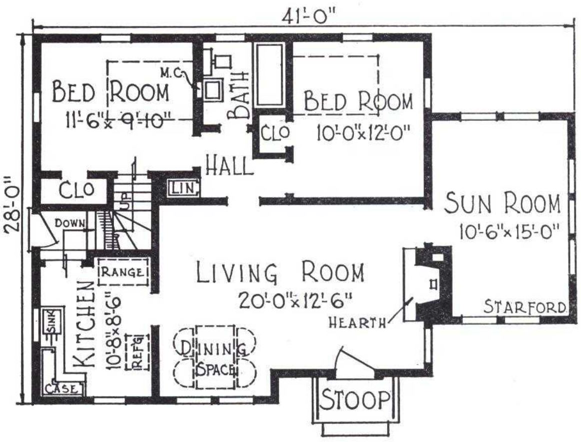
As to the accuracy and dependability of the "HoltRate" principle, in the eleven years since I first published my book, "Automatic Building Costs," announcing this new and unbelievable principle, hundreds of tests have proved that the discrepancy has never exceeded 3.2 percent and the average for one group of houses was only a trifle more than 1 percent off. But anyone can now make his own tests and be really convinced, in this way:

How to Test "HoltRates"

On this page *TruCost* Units are given for the superstructure of "Holt's Basic House" and "The Starford" with blank spaces for inserting one's own local unit costs and extending the price of each unit of construction. For instance, if walls cost, say, $30 per square, the walls for Holt's Basic House would cost 14.2 times $30, or $426 as compared to 17.5 times $30, or $525, for The Starford. In like manner 9.1 and 9.9 times one's own price per square of first floor, and also of the ceiling, will give the respective dollar cost of those units of construction. Do the same for all the other units listed for these two houses.

Units of Construction		Local Unit Price	Holt's Basic House units	amount	The Starford units	amount
Outside Walls	sqs. @	$........	14.2	$........	17.5	$........
First Floor	sqs.	....	9.1	....	9.9	....
Ceiling	sqs.	....	9.1	....	9.9	....
Roof	sqs.	....	12.8	....	14.5	....
Hips & Val.	lin.	....	0	....	18	....
Cornice, C&F	lin.	....	140	....	133	....
Cornice, 6"	lin.	....	0	....	84	....
Partition	lin.	....	120	....	116	....
IS Fin. OS Wall	lin.	....	124	....	138	....
Front Doors	opg.	....	1	....	1	....
Rear Doors	opg.	....	1	....	1	....
Inside Doors	opg.	....	10	....	11	....
Windows	opg.	....	12	....	17	....
Gable Sash	opg.	....	1	....	3	....
Chimney	lin.	....	30	....	30	....
Total for superstructure				$........		$........
HoltRate for Starford				1.166		
HoltRate X Basic Price				$........		
Discrepancy				$........ or		.... % over / short

To test the "HoltRate" principle, *TruCost* both houses at local unit prices and add. Multiply total price of "Holt's Basic House" by "HoltRate" of 1.166 for The Starford and compare to total *TruCost* price of The Starford.



"The Starford" Design from National Plan Service, Inc. Used to illustrate TruCost Estimating Principles.

As explained below the form, multiplying one's own price of "Holt's Basic House" by 1.166 will show how much the "HoltRate" misses the *TruCost* of "The Starford."

If seeing is believing, this one test will prove that "HoltRates" rate the chance to prove their dependability further. By keeping a record of the percentage of "over" in one column and "short" in another, anyone can soon have the same implicit faith in "HoltRates" as hundreds of dealers and contractors have after years of actual test. Just last week James A. Olinger of Nevada, Ia., told me he was within $28 of actual costs on the last house completed, and that two more completed earlier in the spring checked out almost as close.

But, like labor records, the only record that anyone can absolutely depend on is his own. So check up and be absolutely convinced.

"HoltRates" will be especially helpful in pricing each home design shown in *American Builder* as it is received each month. In doing so, remember that *regardless of what the plan shows* for exterior wall finishes, roofing, doors or windows, *specifications will be controlled by one's own TruCost specifications.*

Whatever material and construction method are included for "Holt's Basic House" will *always* be included for any other house when multiplying by its "HoltRate." This is an invariable rule.

Since folks seldom buy houses as we men buy hats, it is advisable to quote a preliminary price first according to one's Standard Specifications. Then, after a house, or several houses, have been selected, one can "get down to brass tacks" and *TruCost* those houses according to Special Specifications shown by the plan or desired by Mr. and Mrs. Prospect. With the actual surface given for all units of construction for all *American Builder* home designs, it is a simple matter to quote the difference "for the house" for any specifications. For instance, if a different kind of siding is wanted for "The Starford" and it costs $3.00 more per square, 17.5 times $3.00 will instantly give $52.50 as the difference *for the house,* which is what prospective builders want to know.

Users of my "House Valuator System" will observe a change in "Holt's Basic House" from the original Basic House. It is 2′ longer, the roof is steeper with one gable sash, and the cornice is "modernistically streamlined." But the cost of the two Basic Houses will be practically the same, as can be quickly proved, so old records for the old Basic House can be used in connection with "HoltRates" given for *American Builder* or any other plans that I may HoltRate.

In conclusion I wish to express my appreciation to those limited few dealers and contractors who gave my "ratio-of-cost" idea a chance to reveal its true value to them and, in particular, to the editor and the publishers of *American Builder* for their foresight in adopting my "Cost Keys" five years ago and for this opportunity to convince everyone connected with the building industry that "Holt Rates" are surprisingly accurate and cannot be beat for quick, dependable preliminary estimates AT ONCE and—as time will prove—will become "the stone that the builders rejected." So,—

See for Yourself

TruCost Detects Errors in Lists

Reg. U.S. Pat. Off.

A. W. Holt shows how costly mistakes in estimating and bidding can be avoided

WHY is it that everyone seems so ready to blame the other fellow when things go wrong? And this they usually do without complete analysis of the trouble to locate the real cause that produced the effect. All too many jump at conclusions and take the I'm-right-and-you're-wrong attitude, thereby hindering their own progress.

This human weakness or downright *failure* was brought to my attention very forcibly a short time ago while visiting among lumber dealers. After a very cordial greeting from a certain dealer, he jolted me by adding:

" . . . but your *TruCost* idea isn't what it's cracked up to be, Holt, and I'll prove it to you," whereupon he led me back into his private office and showed me a mass of figures. This is what had happened:

One of his contractors with whom he had dealt for years and who built homes to sell, as well as contracting for special homes, had just gotten a price on a list of material which he had made himself for an *American Builder* home design. After quoting on that contractor's list, Mr. Dealer referred to the *TruCost* tables and *TruCosted* it. He was about 11 per cent higher than Mr. Contractor. Without checking to see where the discrepancy was, Mr. Dealer simply dismissed it from his mind and condemned *TruCost* and, of course, me. Fortunately for him and his contractor, I happened along or they both would have been out money on that deal. What's worse, they would have lost a lot of time in the future by continuing to make lists of materials for buildings that may never be built. Or, if built, perhaps they would have lost money because of similar expensive errors.

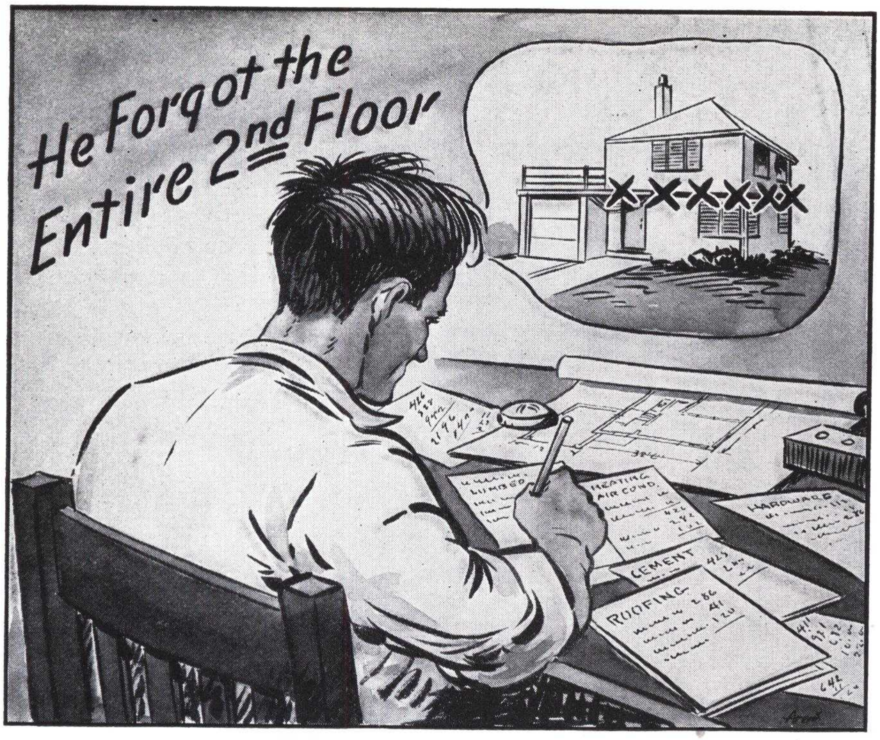
As is almost invariably the case, *TruCost* was right and Mr. Contractor's list of material was off. It didn't take me fifteen minutes to prove it, either. So that anyone can check back and get the right evidence before verdict is passed on *TruCost,* I will explain how I located the two main errors.

How to Check Up with TruCost

After checking the construction of the walls and Mr. Dealer's local unit cost to see that the materials were priced the same as he had figured the list, I asked him to total the board feet of framing material on Mr. Contractor's list. While he was doing so I checked the board footage according to *TruCast* in this way:

Referring to Mr. Dealer's computation of his local unit costs which he had compiled from tables given in the May issue, I multiplied the squares of each unit of construction by the board feet which had been figured per square. For instance, since he had figured 107 board feet of framing per square of wall, all I had to do was to multiply the 21 squares required by that house for a total of 2,247 board feet of framing material for the walls. Doing likewise for the floors, etc, I soon had a tabulation something like this:

Walls	21	sqs. at	107 bd. ft. per sq.	2,247 bd. ft.
First Floor	6.9	" "	195 " " " "	1,345 " "
Second Floor	6.9	" "	195 " " " "	1,345 " "
Ceiling	6.9	" "	82 " " " "	566 " "
Roof	14.2	" "	55 " " " "	781 " "
Hip & Val.	52	lin. ft.,	2x6 rafter	52 " "
Partition	130	" "	8 bd. ft.	1,040 " "
Total framing material per *TruCost*				7,376 bd. ft.



***TruCost* is a useful check to prevent such oversights**

This *TruCost* total was about 1,500 bd. ft. greater than the total included on the list. In a few moments I had located the error. It was in the floor joists. Mr. Contractor had only about half enough on his list. And a similar check on the sub-floor and finish flooring disclosed the fact, later proved by 'phoning Mr. Contractor, that *he forgot the entire second floor.*

Just think of that. But also think how easy it is to "slop over" unless some systematic method is followed when listing the materials. That contractor had been making a practice of figuring the first floor and, in the case of a two-story house, doubling the quantities. He had forgotten to double and, with a mass—or "mess"—of figures to befuddle his brain, it is not surprising that the error was not detected.

The sad part of such mistakes is that, unless the house is built of materials delivered according to the original estimate without transferring part from some other job or using some old materials, nobody but Mr. Contractor himself would ever be the wiser. Why? Simply because it is also a trait of human nature to conceal one's own mistakes.

Operative builders and others who employ what they presume are expert estimators frequently have the wool pulled over their eyes because they leave it to the estimator himself to keep records of actual costs as compared to estimated costs. No wonder many lax builders who lack system and proper accounting go broke. No wonder there is such a spread between high and low bids. And, what's more, no wonder some of those connected with the building industry condemn me and others who "stick our neck out" by committing ourselves in print when they should check up on themselves or look in the mirror for the answer to many of their failures. Again I say: if *TruCost* unit costs are based on one's own proved records and consistent with one's own method of listing materials, *TruCost* will vindicate its accuracy and prove much safer than lists of materials.

How to Prove TruCost Tables

As stated in my original *TruCost* article in the May issue, the quantities given in my tables may need adjustment to conform to one's own actual costs. It is a simple matter to verify my quantities by checking the board footage with the actual material required for any completed house. For instance, if the house analyzed had actually been built and it actually required from 7,300 to 7,500 board feet of framing materials, the *TruCost* tables could not fail to be most reliable. If the actual requirements had been, say, 7,000 feet, *TruCost* would likely be about 5 per cent strong on future jobs unless the quantities per square were reduced slightly. But be sure there was no error in records of materials actually delivered and that it was all used for the house and the overages credited.

The only possible chance of a discrepancy when *TruCosting* a house is in the framing materials because all covering materials such as sheathings, sidings, shingles, lath and plaster, etc., are listed according to surface measure. If the same allowance is made for matching and waste when compiling one's local unit costs as when listing materials, *TruCost* cannot fail to check out. In case it does not, look for errors and omissions in the detailed list of materials.

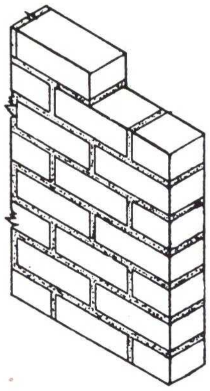
Brick Required Per Square of Wall

Many uninformed builders and estimators still think it requires 7 or 7½ brick per square foot of wall per brick thick when laid with ½-inch mortar joints. That it requires only 6.16 brick per square foot of superficial area can easily be proved in this way:

A standard brick covers 8 by 2¼ inches of wall surface. Adding ½-inch mortar joints gives it 8½ by 2¾ inches of covering capacity. Multiplying 8.5 by 2.75 gives 23.375 square inches that each brick covers. Dividing the 144 square inches in a square foot by 23.375 gives 6.1604+ brick per square foot of wall if ½-inch mortar joints. This is equal to 616.04 brick per square (100 sq. ft.) and is called 616 or 617 brick.

Note that this is practically 6 1/6 "hundreds" of brick, which sometimes simplifies computing costs per square. For instance, brick at $24 per thousand are 2.40 per hundred and it is easier to add 1/6 of $2.40 or 40c to the $14.40 for 600 brick. Even if the price is not a multiple of 6, the 1/6th cannot be more than a few cents off. At $20.75 per thousand brick I would multiply $2.08 by 6 for $12.48 and add 32c (instead of the 35c it would be for $2.10) for the one-sixth for an even $12.80 per square. This is quicker and easier than multiplying $20.75 by .616 unless a computing machine is used.

Knowing it requires 616 brick per square of wall per brick thick, it is a simple matter to compile tables for any wall of common brick. When face brick are required for walls 8 inches or more in thickness and for



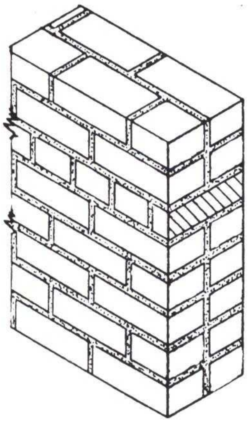
BRICK PER SQUARE FOR 4″ WALLS

Face or common brick. Stretcher bond. ½″ mortar joints.

MATERIAL
616 Common brick
50 Wall ties

LABOR
616 Common brick

MORTAR
8 Cubic feet



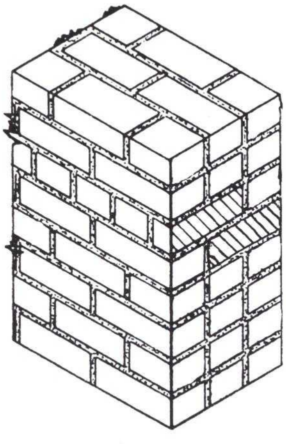
COMMON BRICK PER SQUARE FOR 8″ WALLS

Stretcher bond with full header every 6th course. ½″ mortar joints.

MATERIAL
1232 Common brick

LABOR
1232 Common brick

MORTAR
20 Cubic feet



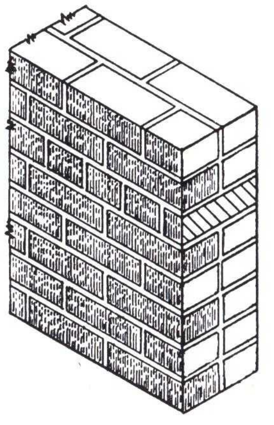
COMMON BRICK PER SQUARE FOR 12″ WALLS

Stretcher bond with full header every 6th course. ½″ mortar joints.

MATERIAL
1848 Common brick

LABOR
1848 Common brick

MORTAR
32 Cubic feet



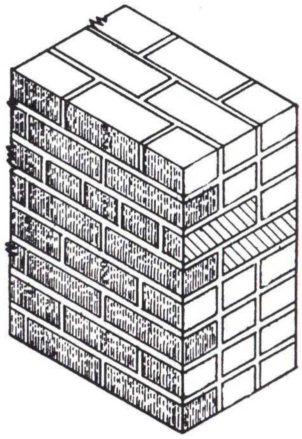
BRICK PER SQUARE FOR 8″ WALLS

Face brick backed with common brick. Full header every 6th course. ½″ mortar joints.

MATERIAL
720 Face brick
512 Common brick

LABOR
720 Face brick
512 Common brick

MORTAR
20 Cubic feet



BRICK PER SQUARE FOR 12″ WALLS

Face brick backed with 8″ of common brick. Full header every 6th course. ½″ mortar joints.

MATERIAL
720 Face brick
1128 Common brick

LABOR
720 Face brick
1128 Common brick

MORTAR
32 Cubic feet

various bonds, the quantity of each kind of brick can be easiest determined by ratio as follows:

If every sixth course is to be a full header course, there will be 5 face brick and 5 common brick for the stretchers and 2 face brick for the header course. This makes a total of 12 brick, 7 of which must be face brick and 5 common brick. Therefore, if an 8-inch wall, 7/12 of 1232 gives about 103 brick "per twelfth" or 720 face brick and 512 common brick. Since chipped or broken face brick can usually be used for headers it is not necessary to make any allowance therefore as should be done for brick veneer of frame walls.

In the May issue 650 brick were listed per square for brick-veneering frame walls. This is an allowance of about 5 per cent for chipped and broken brick that cannot be used. This may be slightly liberal and, if desired, can be reduced. Making no deduction for openings for brick veneer automatically provides for the lintel and, if labor is included, for the extra labor involved by the opening. In other words, most bricklayers would just as soon fill the opening with brick as to keep the sides of the opening plumb.

In the case of solid masonry walls, however, openings are either deducted or an allowance made in the price per square. Net surface is recommended with cost of lintel and sills added to the per-opening price of doors and windows. This, like labor costs, must necessarily be left to each user of *TruCost.*

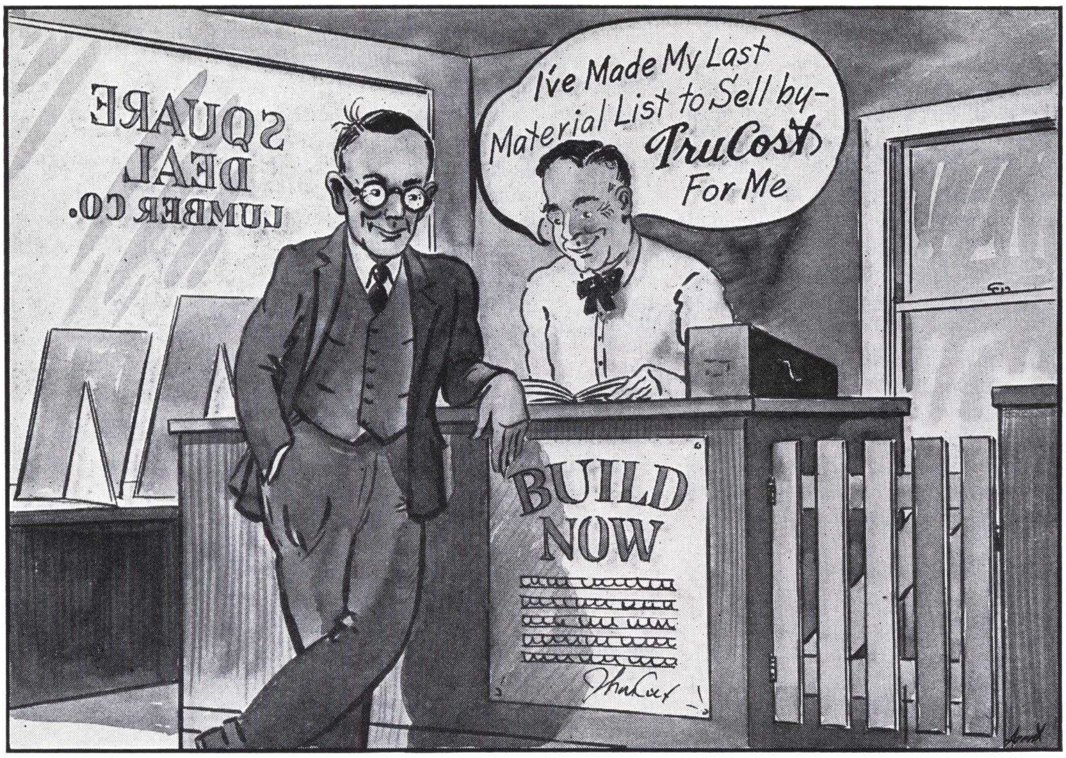
Most bricklayers have an established price for laying 1000 brick in various bonds so it is only necessary to multiply their price by the number of brick required per square. The men who do the work are the best source of information about one's local labor costs. Otherwise, consult any of the data books that are available at such a small price for the valuable information they contain. The main purpose of these articles is to explain how to convert prices from the buying units of per thousand to *TruCost* units for quick and safe estimating.

The accompanying tables should enable anyone to compute their local price per square of brick walls so as to apply to *TruCost* units. Even though a design may show brick veneer or siding, it can be figured in solid brick or face brick with clay or ceemnt back-up tile. In this case, the openings can easily be deducted from the wall area given for a specific plan by multiplying the number of windows and doors given by the area of each. Most estimators allow 12 square feet per window and 18 square feet per door when figuring houses.

Of course, nobody should agree just to be agreeable. But it may be well to remember a truism that I have tried to practice ever since I heard it about twenty years ago. It is as follows:

There is a principle that is a bar to all information, proof against all argument and cannot help but leave one in everlasting ignorance, and that principle: is *Condemnation Before Investigation.*

So don't say that *TruCost* is not dependable until proved by facts. And then be sure the facts really are facts and not supposition.



For TruCost Estimating Figures on All Home Designs in this Book see tables on pages 172 to 177.

TruCost Brings Order out of Chaos

Reg. U.S. Pat. Off.

A. W. HOLT Tells How Really to Save Time on Estimating with the TruCost System

IT WAS gratifying indeed to find that most of the dealers and contractors in the cities and larger villages that I have visited in the past month are making real use of "TruCost." Besides being a great aid in selling homes, all told me that it already had saved them many hours of night-work, thereby enabling them to have their evenings with their family and friends. But the best case I learned of was in a small town in Minnesota—in this way:

The dealer was a middle-aged man who for about twenty years had been taking the list of materials off the plans for his contractors. He always did this after hours because he could not do such work and wait on customers at the same time without "losing count," as he put it. He could figure the footage and make the price extensions between interruptions the next day; but he always made his quantity surveys at night or on Sundays. And, as most old-timers know, many of those houses were never built or had to be refigured because of changes. When I interrupted and asked him if he had any idea as to how much time he had wasted on jobs that were never built, he replied:

"Well, if I have averaged only ten houses each year, I've figured at least 200 jobs that were never built. I call it a day's job to do this, from the time I take a set of plans and list everything, extend the footage, price and figure each item, check, add and finally get the price for my customer, whether contractor or owner. That will make 200 days wasted or about two thirds of a year. What a vacation that would make! No wonder I say a silent prayer that the job will be built whenever I start listing the materials for a house."

Think what one could learn in eight hours of study ten times each year for 20 years. And its no harder to study than it is to concentrate on a plan and make an accurate list of materials required. That should be reason enough for everyone in this building industry to adopt time-and-work-saving methods, especially in the most important phase of every business—the sales end. That's why, with perhaps only five or ten years more activity before him, that middle-aged dealer continued his story:

"But I'm through praying along that line now. My prayer from now on will be for jobs to figure that MIGHT be built. The only way I could find out if I could make a sale has been to exert every effort to do so. That meant that I had to get away from the price per thousand and quote on the complete job, or rather, on my part of the job.

"I have always gotten more than my share of the business because *I sell by serving.* And every contractor I have ever dealt with has remained loyal to me because of the service I give to *help him* sell jobs. Why shouldn't I figure my share of these contractor jobs—or all materials—just as the plumber does, or the heating man, and the electrician and others? And since they always quote a guaranteed price for *their share* of a job, why shouldn't I do the same? That is why I have been guaranteeing to furnish all materials so all that Mr. Contractor has to do is to get his various sub-bids together and add his labor and profit and sell the job. We all do our part and work together so we all make money and get along fine."

That dealer has proved what I have always contended; and that is, that co-operation of all in the building industry who are involved in the completion of a home, PLUS FAITH IN ONE ANOTHER, cannot fail to give the public utmost value for their building dollar. Everyone wants a reasonable profit on his share of a job so why should anyone want one of his PARTNERS on a job to do his part at cost? Every one should have confidence in those from whom he buys just the same as he expects the confidence of his customers or clients. Confidence is the basis of all good business deals and worth-while industry men are too proud to make price the governing factor of a sale.

When I asked that dealer how his contractors figured labor he stated that they had been either guessing at it by comparison with completed jobs or adding a certain percentage of the material cost. "But," he said, "both of the contractors we have here have already established their labor costs on the basis of *TruCost* units, as was suggested in your original article (page 146) because they fully realize that this is truly a scientific system of estimating building costs. This is how one of them happened to do this:

"Shortly after I got to the office one morning this contractor came in with a plan of a house and had to have a price as soon as possible. I told him I could not have it for him until the next day—that I would figure it that night. We went over the plan a few minutes and then he left it with me. When I got the mail I found the May issue and noticed the 'TruCost' announcement on the cover. I immediately looked for it and glanced at the tables given per square of walls, floors, roofs, etc. Just as soon as I could I read that whole article. It all seemed so simple that I decided immediately to try it out on this job I had to figure. It so happened that there was a house in that May issue that was very similar to the one he wanted a price on; so, after I had figured my local unit costs for materials, I figured that house by simply multiplying by the squares you gave for it. I wanted that to check my areas for this other house."

Easy to Establish Local Unit Costs

"Did you do all that during the day or after supper?" I asked and his face beamed with enthusiasm when he replied:

"I lined up the whole works BETWEEN TIMES during the day. I could do so and still wait on customers because each unit is a job in itself. Even if I had only the framing and sheathing figured for the walls when interrupted, I could immediately carry on and complete it without checking back. Those tables you gave in this (May) issue are so simple and yet so complete. Anyone who knows anything at all about estimating can use them without studying a lot of directions. I simply took a few blank pages for this loose-leaf price book of mine and worked out my costs as you showed by this cut (Fig. 2 on page 148) and *now I have my price book complete.*"

"How much time do you suppose you spent altogether in establishing your local unit costs?" I asked and, after a little thought, he replied:

"It couldn't have been more than two hours. I did not start until almost noon, but I took only 30 minutes for lunch because I was so anxious to get all my costs lined up and try it out. I was just as enthusiastic as a kid with a new toy and I wanted to get it 'put together' so I could 'play' with it. About 4 o'clock I figured this house (page 49 of May issue) and it only took a few minutes to figure it. It's just like multiplying 2 by 2 a few times and then adding it up."

Think of it, a couple hours of SPARE TIME work and that dealer was all set to cash in on *TruCost*. He did so that same afternoon too for he told that he started right in figuring the areas of the walls, floor, etc., from the plans which his contractor left with him. Interruptions did not bother on that kind of work because he could scale everything from the plans. Each unit of a house is a complete job in itself when TruCosting, the same as the various component parts of an automobile or any other manufactured article. Manufacturers who do not use scientific methods for determining their costs usually go broke just the same as contractors who use hit-and-miss methods.

TruCost is Practically Foolproof

TruCost is the most scientific and systematic method of estimating that is available. It is practically fool-proof and will be a great time-saver for anyone who will use it, just as it was for that small-town dealer who didn't mean maybe when he concluded by saying:

"I'll never make another list of material to sell a house or any other building so long as I live. I've wasted enough time that way and worn myself out with night-work for the last time. I phoned my wife that I'd be a little late for supper but when I went home that first day, I had the plans and all of my figures in my pocket. I was ready to quote on MY SHARE of that job.

"I phoned my contractor friend that I'd be over to see him and after supper my wife and I went over. He was smoking his pipe and looking through his copy of the May issue. Then I showed him my unit costs and how I had figured the materials by *TruCost* for the plan he had to quote on. We spent a most enjoyable evening talking about this *TruCost* system and, what's more,—we worked out his labor costs for each unit of construction.

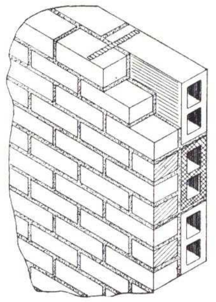
His judgment was all we had to go by but he is now keeping a record of actual time spent on the wall framing, floor joists and girders, sheathing and each OPERATION so that he will soon REALLY KNOW HIS LABOR COSTS."

Needless to say that such genuine appreciation of my efforts REALLY TO SERVE everyone in this building industry for the past 19 years made me want to DO MORE AND MORE to bring order out of chaos and supplant the old hit-and-miss and man-killing estimating methods with scientific, systematic, time-saving and sales-making methods. I might add that I am through trying to CONVERT the self-satisfied, Doubting-Thomases and my entire efforts will be directed to those who are sufficiently interested in their own welfare to HELP THEMSELVES TO SUCCESS by refusing to make a list of material until the job is sold and a "Delivery List" is required.

Unit Costs of Tile and Brick and Tile

Full information was given on pages 163 and 164 for figuring brick with a few basic tables to "start you out" with your own book of building cost facts. The same principles that govern brick costs apply to tile. And the tile for brick and tile walls is best figured by the simple "ratio and proportion" phase of simple arithmetic, as follows:

Referring to the first table on next page, which is for 8″ Brick and Tile Wall with 4″ x 8″ x 12″ tile to back up face brick with metal ties every third course. Each of these tile is equivalent to 3 brick high and 1½ brick long. Therefore 1 tile will be required for every 4.5 brick. Dividing 616 brick per square bv 4.5 gives 137 tile required

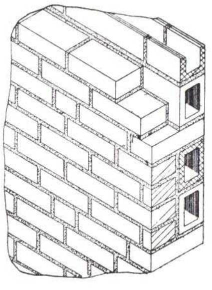


8″ BRICK & TILE WALL

Face brick backed with 4″ x 8″ x 12″ tile on edge with metal ties every third brick course.

MATERIALS PER SQUARE

616 Face Brick
137 4x8x12 tile
50 wall ties
14 cu. ft. mortar

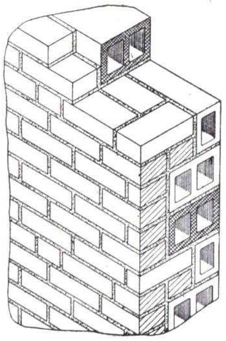


8″ BRICK & TILE WALL

Face brick backed with 4″ x 5″ x 12″ tile on edge with Flemish Header every 5th course.

MATERIALS PER SQUARE

660 Face Brick
80 Common Brick
164 4x5x12 tile
14 cu. ft. mortar

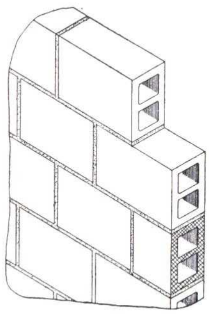


12″ BRICK & TILE WALL

Face brick with 5x8x12 backup tile and 4x5x12 tile to back up Flemish header every 6th course.

MATERIALS PER SQUARE

650 Face Brick
172 Common Brick
138 5x8x12 tile
69 4x5x12 tile
21 cu. ft. mortar

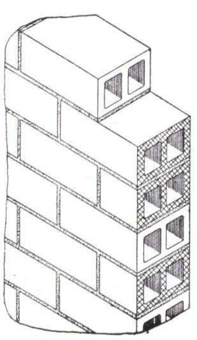


5″ TILE WALL

5x8x12 tile for 5″ partition walls with ½″ mortar joints.

MATERIALS PER SQUARE

135 5x8x12 tile
4 cu. ft. mortar.



8″ TILE WALL

5x8x12 Load Bearing tile for 8″ walls with ½″ mortar joints.

MATERIALS PER SQUARE

210 5x8x12 tile
8.5 cu. ft. mortar.

per square, as given by the table. The quantities would be the same for a 9″ wall using 5″ x 8″ x 12″ tile. And in case an air space is left between the brick and tile, as is frequently done, the only difference will be a slight saving of mortar so such walls are figured the same as this one.

The second table is for an 8″ wall using 4″ x 5″ x 12″ backup tile and a Flemish header every 5th course. In other words, it requires 6 courses of brick to equal 5 courses of superficial area so adding 1/5 of the basic 616 brick per square, or 123, equals 739 brick required. Call it 740 for both face and common brick. Being a Flemish header the header course on the inside will consist of ½ a face brick to 1 common brick. For this reason 1/3 of the 123 extra brick or 41, will have to be face brick and the remainder of 82 will be common brick. This is called 660 and 80 as shown by the table. Since 6 courses of brick 1½ brick long will require 2 tile, this is a 9 to 2 ratio and 2/9 of 740 equals 164 tile required per square.

The third table for a 12″ Brick and Tile Wall is "reasoned out" in the same way, or as follows: The double course of brick required for the header is equal to one third of the 6 courses of exposed brick, so 1/3 of 616 is called 206 brick for a total of 822 face and common brick per square. One of these header courses can be solid common brick and the other will be one common brick to the ½ Flemish header which must be face brick. In other words, 1/6 of this extra 206 brick, or 34 brick, must be face brick, leaving 172 common brick and 650 face brick to equal the total of 822 brick per square of superficial area. And 8 courses of brick 1½ brick long will make 12 brick per 3 tile. This is a 4 to 1 ratio and ¼ of 822 brick gives 206 tile, one third of which will be 4 x 5 x 12. This equals 69 of this size and twice as many of the 5 x 8 x 12 will require 138 of them per square.

Although there are dozens of combinations of brick and tile walls, this will suffice to explain how any kind can be analyzed by ratio to the 616 brick required per square for ½″ mortar joints. All manufacturers of brick and tile can supply basic tables for various combinations of their materials so a unit price per square of any kind of wall is easily determined.

Unlike frame walls which are generally figured solid with a deduction for the siding only, masonry walls are figured net surface unless the gain of the openings is cancelled against the extra cost of the lintel, sill and special frame. *TruCost* wall areas are gross but it is a simple matter to multiply the number of windows and outside doors by their respective areas and get the actual wall surface. In that case the lintel, sill and extra cost of the frame should be added to the per-opening price for the doors and windows. It is suggested that this extra cost be compared to the cost of masonry walls saved so as to determine whether or not this cancellation can be made.

The tile tables were figured by dividing 144 square inches per square foot by the area of the tile plus the mortar joint, as explained for brick in the August issue. Even though one seldom has occasion to figure brick or tile walls, it is well to know the comparative cost of masonry walls and frame construction. This is a matter for individual choice—the *TruCost* areas for all *American Builder* home designs will be the same regardless of specifications desired.

The more anyone uses *TruCost* the more they will value it as a real time-saver and sales-maker. What's just as important, by keeping a file of *American Builder* one will have hundreds of home designs to show prospective builders in a few months. With the *TruCost* Units already given, it is a simple job to have the true cost.

How TruCost Figures Any House

Reg. U.S. Pat. Off.

"HOW can we apply our *TruCost* unit costs in figuring other houses than those shown in *American Builder?*" That is a question that so many have been asking me these last few months while I have been traveling around visiting with the practical men of this building industry.

In answering this question let me relate an experience I had recently with two contractors in Iowa. I met both of these men in the office of a retail lumber dealer; and I identified both by the flat carpenter pencil each had over his ear and under his cap. And neither knew I was the author of these *TruCost* articles in *American Builder*.

Both of these contractors were in their forties and were reputed for their good work and their ability to build good homes whether cottage or mansion. Both had been getting and reading *American Builder* for many years. And, naturally, both liked it. But when I asked how they liked the *TruCost* feature, one swore BY *TruCost* and the other swore AT it!

That's what I call "the human equation" which makes or breaks everyone. With the printing of the *TruCost* articles the same to all and with the same fundamental principles governing building costs everywhere, just what is the difference in *TruCost* for these two men?

The only answer I can give is that one is open-minded and the other has a closed mind. One knows enough to know that there is no end to learning and no such thing as perfection. The other thinks that he knows it all.

Harsh words those, but I sincerely believe they can be applied to a lot of fellows operating in the building field, as in all walks of life.

The first of these contractors, it came out, had followed *TruCost* since its first announcement in the May, 1938, issue of *American Builder*. He told me that it all seemed reasonable to him; so he decided to check up on a board footage basis after the example given in the August issue. It checked out with his actual requirements on those two houses. Remember, I had not introduced myself as the author of *TruCost* so I know that he wasn't saying things just to be nice. Naturally my visit with him was inspiring. After finishing my business with the lumber dealer, in whose office the conversation had occurred, I called on the other yard in that Iowa town; and it was there that I met the other contractor.

"*American Builder* is fine and I've been getting it ever since I started to work for my father back in nineteen fifteen," this contractor assured me. "I've learned a great deal from it and have built many of my houses from the designs that you have illustrated. I have contributed a few of the 'Practical Job Pointers' myself and like that feature. You're doing a great job with your 'More Home for the Money' series and I like your magazine very much."

That, substantially, is what he told me; and you will notice that he made no mention of the *TruCost* estimating figures and method of quick costing. So I asked him what he thought of this feature, and then he minced no words when he said:

"That may be all right for those who don't know this building game. My father told me years ago that there was no such thing as reliable short-cut systems of estimating. And I think that he was absolutely right; so I cannot understand why a publication such as *American Builder* should advocate such things."

After asking him if he had followed the *TruCost* articles each month he told me that he read the first one but *knew* that it could not work and had skipped over subsequent articles. Not knowing me, he did not know that he was talking himself into a discussion of facts. I positively will not *argue* with anyone any more; so what followed was not an argument, even of the friendly kind. We discussed the subject long enough for me to decide that he was prejudiced against anything but the ox-cart methods that his father had used, and would not give *TruCost* a chance to reveal its true value to him. Knowing I could get no place with a man of his sort, I closed the discussion by repeating what I heard a Chautauqua lecturer say about twenty years ago:

> *There is a principle that is a bar to all information—proof against all argument—and which cannot fail to leave one in everlasting ignorance—and that principle is CONDEMNATION BEFORE INVESTIGATION.*

The way he laughed I am certain that he thought I had told him a funny story, which further convinced me that he is one of those men who have a half-knowledge of their business when it is the other half that they need.

"A.W." finds some are for, others against, "TruCost." How do YOU rate it?

TruCosting ANY House Design

In explaining how one's local unit costs can be applied to estimating ANY house I shall quote excerpts from my new "KwickKost" book which contains all of the basic tables given in these *TruCost* series plus a great deal more. These rules for "Figuring Areas" will be given and amplified by application to the four-gabled, one-story house used as an example and shown on page 66, with ½ pitch roof over the Living Room and Library and 1/3 pitch for balance.

Rule: Linear feet of foundation equals the perimeter which always equals the extreme width plus the extreme length multiplied by two and add for recesses.

Adding 30′ and 50′ gives 80′ to double for 160 linear feet of foundation. This "doubles up" on the four corners and allows footings for girder posts, piers, etc.

Rule: The perimeter and first floor area are basic in computing unit areas so should be listed at the out-set.

The floor area of this house totals 1,200 sq. ft. or 1,008 for the main unit 24′ x 42′ plus 96 sq. ft. for the 6′ x 16′ projecting Living Room and another 96 sq. ft. for the 8′ x 12′ Added Room unit for the rear Bedroom.

Rule: Squares of outside walls equal perimeter multiplied by height of first story, plus perimeter of second story (if any) times its ADDITIONAL height ,plus gables, plus dormer walls.

The subject plan has 18.1 squares of wall, computed as follows: The 160 lin. ft. (perimeter) multiplied by 9′6″ for 8′6″ ceiling height and 12″ for 2 x 10 joists and mud sill equals 1,520 sq. ft. The three front gables are 16 feet wide, as shown by the 15 foot depth of the Living Room; and, being ½ pitch, the area of each is equal to the rise of 8 feet multiplied by half of the width, or 8 feet. This adds 192 sq. ft. Add 96 sq. ft. for the rear gable which is 8 feet high and 24 feet wide at its base and computed by multiplying 8 x 24 and dividing by 2 or dividing one or the other of the two dimensions before multiplying. Anyway one chooses to figure, the total wall area is 1,520 + 192 + 96 or 1,808 sq. ft. which is called 18.1 squares of wall.

The 12 squares of floor and ceiling areas are also basic in computing the 16.4 squares of roof for this house according to the basic roof area table which reads:

Rule: Squares of roof equals square feet of floor area plus the perimeter multiplied by the projection of the cornice in FEET, plus the percentage given for the designated pitch of the roof; then point off two places.

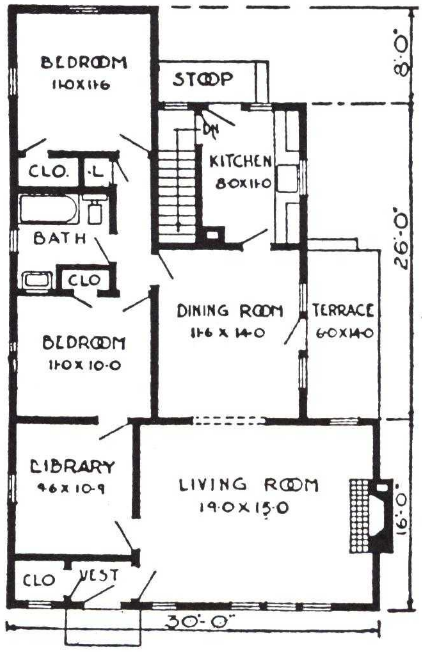
Applying that rule, the 1,200 sq. ft. floor area plus 80 sq. ft. for 160 lin. ft. perimeter multiplied by ½ foot cornice projection for this C&F (crown and frieze) cornice makes 1,280 sq. ft. of "flat surface" UNDER this roof. Had the entire roof been of the same pitch it would only be necessary to add the "pitch percentage" once. As it is there must be added 42 percent for the ½ pitch roof and 20 percent for the 1/3 pitch roof back of the cross ridge, in accordance with this schedule of roof percentages.

Pitch of Roof	Inches rise per foot run	Percent to add per*	Add for Hip and Valley
1/6	4″	5.4%	38%
1/4	6″	11.8%	34%
1/3	8″	20.2%	30%
5/12	10″	30.2%	26%
1/2	12″	41.4%	22%
7/12	14″	53.7%	19%
2/3	16″	66.7%	17%
3/4	18″	80.3%	15%

* This is the percentage to add to the run of the rafter to have its length and also the amount to add to the "flat surface" UNDER a roof (from eave to eave) to have the actual roof surface.

The last column gives the percentage to add to the length of a common rafter to have the length of the hip or valley rafter or the valley flashing or hip shingles. Just as sure as 5 is 25% greater than 4 of the "3, 4 and 5" geometrical rule, so sure can one be of these percentages.

Inasmuch as the roof illustrated is of two different pitches, the 1,280 sq. ft. of flat surfaces must be apportioned to each pitch. It is a simple matter to figure this but most practical men will "judge" this close enough for all practical purposes. I called it about 1/3 under the ½ pitch roof and the remaining 2/3 as having a 1/3 pitch roof over it. To simplify figuring 480 sq. ft. and 800 sq. ft. respectively. Therefore, adding 42 percent (technically 41.4) of 480 sq. ft. gave 202 sq. ft. and 20 percent of 800 sq. ft. gave 160 sq. ft. more. Adding



SAMPLE House design used to illustrate the principles of "TruCost" estimating system.

1,280 plus 202 plus 160 gave 1,642 sq. ft. which is called 16.4 squares of roof surface.

Space will not permit explaining how the length of valleys for this "mixed-pitch" roof is determined; but the valleys for this house will total 64 lin. ft.

Rule: Lin. ft. of cornice equals the perimeter, plus the roof percentage of the total width of all gables, plus duplication of cornices.

Just as the simplest thing in the world seems complicated at first, so is that basic rule until explained. Obviously, a hip roof house having cornice parallel to the foundation or floors on all sides has the same amount of cornice as its perimeter except for the four corners. All that would have to be added for the cornice if that same house had a plain gable roof is the extra cornice to "follow the rafters" instead of "cutting arcoss" the gables. And that is where it is convenient to refer to the calculations of wall areas and add the combined width of all gables and then adding the extra cornice which is always the roof percentage of the pitch. And if that roof had four gables and was ½ pitch, 42% more cornice would be required than for the hip roof because it is 42% farther around the building "along the four gables" than it is horizontally as given by the perimeter. It is all so simple that it is difficult to understand why there should be so much difference in material lists made by different estimators.

The house illustrated has 3 gables 16 ft. wide or a

total of 48 feet. Being ½ pitch, 42 percent, or 21 lin. ft., must be added for these three. The rear gable is 24 ft. wide and, being 1/3 pitch, 20% thereof is 5 feet. The left side of the rear Bedroom gable is provided by the main gable but the right side is "duplicated." Therefore, add 8 lin. ft. for half the span of 12 ft. plus 20% thereof and the grand total will be 160 + 21 + 5 + 8 or 194 lin. ft. of cornice.

Rule: List partitions COLLECTIVELY shown cross-wise and then vertically (or vice versa) on the plan for each floor.

By "collectively" is meant the grouping of the partitions that equal the extreme length or width of the house. To illustrate, starting from the top, the front walls of the rear Bedroom and Kitchen equal the width of 24 lin. ft. List 7 for the rear of the bathroom, 3 for the closet, 11 for the Bedroom, 24 for rear of Living Room Library and 10 to wind up the cross-partitions. Vertically, from left to right as in reading, list 2+ 2 + 42 + 4 + 12 to make a total of 152 lin. ft. of partitions.

Rule: The perimeter gives the linear feet of Inside Finish of Outside Walls for the first story.

In this case, 160 lin. ft. is listed for this unit of construction. This cannot be included with the outside walls because gables and decorative dormers are not finished inside and 1½ and 2 story houses have no interior wall finish the depth of the second floor unit whereas the outer surface is finished.

The opening units of doors and windows need no explanation. Its simply a case of counting them and adopting some size as being standard. The extra cost of mullion or triple window frames is off-set by the saving in the cost of the trim; so the cost in place is always equal to the cost of the number of single window units. Porches and other units covered by the *TruCost* tabulations are also easily understood so this article can be concluded by simply saying:

Compute the actual surfaces of walls, floors, roofs and other of the component units of a house, count the doors and windows, as shown by *TruCost* tables and FIGURE ANY HOUSE. Its all just as simple as two plus two once one has figured a few houses.

"Why don't you give us some idea about labor costs?" is the second of the most-asked questions I have encountered the past few months and beginning next month I will give you the ACTUAL records for a few houses and, I hope, explain why the ONLY reliable labor cost records must be YOUR OWN.

TruCost

Reg. U.S. Pat. Off.

Reduces Home Building Costs

A. W. Holt explains how accurate yet rapid estimating the "TruCost" way helps both Builder and Owner.

SUCCESSFUL men and those who are sincerely interested in attaining greater success consider their time worth money. Any worth-while man will not conduct his business on a philanthropic basis.

Since none but that calibre men would follow my *TruCost* articles since last May, I am assuming that my readers want to know how *TruCost* can help them reduce their operating costs so as to offer more home for the money—thereby making more sales at lower prices with even greater profit for himself.

Salesmen who CREATE house sales tell me that they have to figure five or more jobs for each one they sell. Most of them place it as a ten to one shot. Considering the jobs that are not built because of failure to qualify for a loan, plus the jobs that must be changed so as to qualify, plus the jobs that are changed to meet the changing minds of many prospective builders, plus the jobs that are LOST to some competitor who is either a better salesman or a fool price-cutter, anyone should feel that he has done well if he sells one house out of every ten he may figure. All right, let's see how *TruCost* can help reduce that selling time and, therefore, the selling expense.

Experienced men who make up a complete list of material for stock plans tell me that their quota is two houses per day. That's four hours time per house. After a contractor or builder gets that detailed list of material it takes at least two hours, and usually four, to transfer that list of material to his estimating forms, price each item (if board footage is given by the list as most good lists do) extend same, check and add to arrive at the total cost. But call it six hours altogether. And two dollars an hour would not be too much for such PROFESSIONAL men. That makes $12.00 for figuring a special job. If one sells only one job in five, that's $60.00 as the selling cost per sale; and, like all costs, that must be paid by Mr. Consumer.

In case one makes only one sale out of ten he is worth only half as much as the five-to-one man. The cost to the consumer should be no greater. So let's agree that it is worth $60.00 to GET READY TO SELL (estimate) the average house job THE OLD LIST-OF-MATERIAL WAY. Compare that to the *TruCost* SYSTEM that SYSTEMATIZES estimating.

A young builder in Minnesota told me that it has never taken him more than fifteen minutes to *TruCost* any *American Builder* home design and that he can take practically any other plan of the average small home and compute the various unit surfaces and be ready to close a deal in 30 minutes. That's twelve times quicker than the old ox-cart list-of-material DRUDGERY. Applying the simple ratio and proportion principle that everyone knows or should know, we have the following problem: 6 is to ½ as $60.00 is to $———?

However one may figure, the answer is $5.00, and—deducting $5.00 from $60.00 means a saving of $55.00 per house in estimating costs.

So much for the tangible saving, which is only the beginning. Consider what may happen when one sees the prospective owner, who if an average individual DREADS the HAZARD of building a home to order. Friends of his may have told him of their awful experience—what a time they had to get a definite price on the things they wanted—how everyone in the building industry tried to soak them for changes and "extras," and so on without end.

One thing to be remembered is that—

—first impressions are lasting ones,—

—the importance of getting off to a good start cannot be over-emphasized. With a systematized system of RECORDING ONE'S COSTS that will keep the interest of a prospect when he or she asks, "How much can we save if we omit this?" or "How much more if we add that?", you, Mr. Reader, can readily see that you can raise your batting average from .100 for a one-sale-out-of-ten to .200 for a five-to-one record.

"TruCost gives me all the figures quick and easy."

But the saving of costs is only one side of the story that *TruCost* can tell serious-minded builders of homes. The ADDED VALUE as compared to costs is another very important point to consider. This can be illustrated by a concrete example of a sale made a few weeks ago by an up-and-coming builder in Minneapolis, which I will describe in his own words, as follows:

"I just sold a nice Cape Cod Colonial house to a young couple after they brought in a floor plan drawn to a one inch scale on some wrapping paper. They had the size as 26′ x 26′. They gave me the impression that it was perfect and that they didn't want anything but that. They had a picture of some relative's house built years ago with wide eaves and a lot of "gingerbread" on the porch. You know the kind. Well, I didn't say a word about their bum ideas about the design. Talking with them and learning that their means were limited and that they had come to me through the recommendation of another party for whom I had built a home, I told them that I would see them that evening and have everything figured. I could see that they were in the mood for buying and I wanted to ACCOMMODATE myself as well as them.

"After they left I quickly figured the units in their 26′ x 26′ house. The perimeter of 104 linear feet and the floor area of 676 square feet with your rules for figuring the walls, cornice, roof and all other units of any house enabled me to apply the *TruCost* unit costs which I had compiled from your tables starting last spring (May) so I had everything figured in about thirty minutes. Knowing the cost of plumbing, heating, lighting and such things, I was ready to see them about that certain house.

"But," he continued—and this is the part that impressed me about his recountal of that sale—"I had made up my mind that I would not be involved in the sale of the house they thought they wanted. I could not afford to jeopardize the reputation and prestige I have been years in building by putting up that old-timer of a house. It was anything but architecturally correct. Besides it involved a lot of worthless features that they wanted for sentimental reasons. So I got busy and drew up a floor plan of a Cape Cod house 26′ x 28′ that gave them a combined living and dining room 13′ 3″ by 25′ 0″ instead of a dinky little dining room, which they would seldom use, separated by a cased opening from the 'parlor' that their relatives had built into their home years ago. By adding two feet to the kitchen they had nice room for a good old kitchen table for ordinary meals and they could easily get a new apartment-type dining table that would not be out of place in the living room for entertaining guests. And the bedroom was 13′3″ long instead of 11′3″, with a foot added also to both the closet and bathroom—points that I knew would appeal to any woman.

"It didn't take me long to draw up that revised floor plan and get its comparative cost in this way: I added 4 linear feet of foundation wall, 2 x 26 or 52 square feet of basement floor, $5.00 for the extra excavating, .4 squares more wall (4 x 9′6″) and 5 squares more floor and ceiling. I didn't bother to figure the roof because I knew that the saving on the wide cornice which they had wanted would more than take care of the extra roof. I did not deduct for the partition and cased opening between the living and dining rooms of their original plan but left that to cancel the cost of the little things that make a home complete, such as a built-in mail box, telephone shelf, etc. and other things which I furnish but don't mention so as to *more* than please them. The more I considered the RELATIVE VALUE of the two houses, the more confident I was that I could sell them that house that same evening."

About that time I interrupted by saying that it takes such self-confidence to inspire the confidence in a prospect's mind so that they CANNOT HELP BUT BUY.

"Perhaps that's why I sold them that house that same evening JUST AS I HAVE SOLD *EVERY* RE-ROOFING JOB THAT I HAVE FIGURED THIS YEAR," he told me, beaming with the ESSENTIAL enthusiasm that causes folks to want to buy.

The salesman who approaches a prospect with misgivings as to his qualifications to serve or inwardly questions his own SINCERITY OF PURPOSE should be keeping books or doing some other routine work instead of contacting prospective buyers.

That up-and-at-'em builder sold that job and gave them about 25 per cent more value for less than 3 per cent more cost. And *TruCost* was his "Efficient Selling-tool" that kept his other efficient "building tools" busy.

TruCost

Reg. U.S. Pat. Off.

Figures for American Builder Homes

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	Page 8	Page 10	Page 12, Top	Page 12, Bottom	Page 13	Page 15-1	Page 15-2	Page 16
Basement Walls, lin. ft.	189	110	152	169	178	158	156	132
Trench Walls, lin. ft.	74	54	98	90	98	102	161	0
Basement Floor, sq. ft.	1162	714	1292	1314	1236	1054	1050	1048
Garage Floor, sq. ft.	418	0	245	140	403	240	441	0
Excavation per ft. deep, cu. yds.	55	34	61	62	61	52	57	44
HoltRate on following items	....	....	....	....	....	....	....	....
Outside Walls, squares	29.3	17.6	21.0	20.9	38	27.9	30.1	12.6
First Floor, squares	11.7	7.1	12.9	13.1	12.4	10.5	10.5	10.5
Second Floor, with Fin. Flg., sqs.	11.1	5.7	0	0	13.8	8.3	7.7	0
Second Floor, without Fin. Flg., sqs.	4.7	1.4	0	0	0	1.4	1.9	0
Ceilings, sqs.	15.8	7.8	12.9	14.5	16.4	9.1	13.0	10.5
Roof Pitch, inches rise per ft. run	16″	16″	3″	4″	2″	16″	16″	7″
Roof, squares	30.0	12.1	20.7	16.9	21.6	18.6	30.5	13.0
Hips and Valleys, lin. ft.	64	20	210	70	140	112	240	126
Cornice, type and lin. ft.	C & F-110	C & F-210	12″-232	C & F-115	6″-306	C & F-190	C & F-356	C & F-132
Cornice, type and lin. ft.	12″-157	0	0	12″-95	0	0	0	0
Partition, lin. ft.	261	160	138	157	342	164	138	112
Inside Finish OS Walls, lin. ft.	311	202	220	189	408	292	300	132
Front and OS French Doors, opgs.	3	2	4	4	5	2	3	1
Rear and Grade Doors, opgs.	1	1	1	1	2	2	1	2
Garage Doors 8′ wide	2	0	1	1	2	1	2	0
Inside Doors and Cased Opgs., opgs.	22	15	11	15	22	17	14	10
Windows and Casements, opgs.	30	16	18	34	35	29	20	22
Gable Sash and Louvers, opgs.	0	0	2	5	0	0	0	0
Chimney, lin. ft.	37	34	24	25	34	36	36	28
Main Stairs	1	1	0	0	2	1	1	0
Porch Floor, sqs.	.9	1.4	2.0	1.8	3.0	1.8	5.3	0
Porch Ceiling, sqs.	.9	1.4	2.0	1.8	3.0	1.8	5.3	0
Porch Beam, lin. ft.	20	33	32	44	24	32	73	0
Porch and Bal. Post and Newels, number	4	9	4	7	6	4	8	0
Porch Roof, sqs.	1.6	1.8	0	2.2	1.6	4.2	0	0
Porch Cornice, lin. ft.	20	36	0	18	48	82	0	0
Porch and Deck Rail, lin. ft.	0	0	26	28	48	0	0	0

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	Page 17	Page 18	Page 19	Page 20	Page 22	Page 23, Top	Page 23, Bottom	Page 24
Basement Walls, lin. ft.	234	110	214	128	356	142	158	95
Trench Walls, lin. ft.	8	84	34	82	126	8	76	0
Basement Floor, sq. ft.	1789	712	1490	960	2254	1100	867	560
Garage Floor, sq. ft.	0	231	0	340	816	0	171	0
Excavation per ft. deep, cu. yds.	75	37	66	46	106	46	44	24
HoltRate on following items	....	....	....	2.264	3.055	1.294	1.323	1.107
Outside Walls, squares	22.2	27.3	21.8	30.5	42.4	18.2	17.9	15.1
First Floor, squares	17.9	7.1	14.9	9.6	22.5	11.0	8.7	5.6
Second Floor, with Fin. Flg., sqs.	0	7.1	0	12.7	0	0	0	5.6
Second Floor, without Fin. Flg., sqs.	0	0	0	0	0	0	0	0
Ceiling, sqs.	17.9	7.1	14.9	13.0	30.7	11.0	10.4	2.9
Roof Pitch, inches rise per ft. run	5″	10″	5″	10″	4″	12″	10″-14″	11″
Roof, squares	21.6	13.9	17.6	18.0	39.2	16.9	18.0	9.2
Hips and Valleys, lin. ft.	168	10	20	52	240	68	36	102
Cornice, type and lin. ft.	6″-234	C & F-92	C & F-224	C & F-216	C & F-64	C & F-192	C & F-208	C & F-52
Cornice, type and lin. ft.	0	8″-112	0	0	12″-360	0	0	12″-88
Partition, lin. ft.	240	163	149	290	297	130	130	133
Inside Finish OS Walls, lin. ft.	234	216	214	312	438	142	158	190
Front and OS French Doors, opgs.	3	1	4	4	7	3	1	1
Rear and Grade Doors, opgs.	1	2	1	1	3	2	2	1
Garage Doors 8′ wide	0	1	0	2	2	0	1	0
Inside Doors and Cased Opgs., opgs.	20	16	14	24	22	12	12	11
Windows and Casements, opgs.	27	17	17	24	34	13	17	14
Gable Sash and Louvers, opgs.	0	0	0	2	0	4	2	0
Chimney, lin. ft.	24	38	24	38	24	32	30	36
Main Stairs	0	1	0	1	0	1	0	1
Porch Floor, sqs.	0	.9	2.6	1.4	3.3	.3	1.7	0
Porch Ceiling, sqs.	0	.9	0	1.4	3.3	.1	1.4	0
Porch Beam, lin. ft.	0	20	0	26	30	8	24	0
Porch and Bal. Post and Newels, number	0	2	0	4	2	0	7	0
Porch Roof, sqs.	0	1.3	0	1.8	0	0	0	0
Porch Cornice, lin. ft.	0	20	0	28	0	0	0	0
Porch and Deck Rail, lin. ft.	0	0	0	0	0	0	40	0

(a)—Included with main roof and cornice. (b)—Omitted in HoltRate on account of being so special.

Necessary Home Equipment, Fixtures, Accessories, Extras

Since the above surveyed items cover only the actual superstructure of the house, you should figure and add the following items as specified or wanted (and don't forget Overhead and Profit):

Areaways, Cellar Sash, Coal Chute, Basement Partitions & Doors, Attic Flooring, Attic Stairs, Blinds, Gutters & Downspouts, Fireplaces, Built-in Cabinets, Rail & Newels for Stairs and Stair Well, Beamed Ceiling, Weatherstrips, Tile Work, Plumbing, Heating & Air Conditioning, Lighting, Terraces, Patio Walls or Fences, Sidewalks including Porch Steps, Driveways, Unattached Garages. Also add for painting and decorating if not included in Unit Costs.

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Figures for American Builder Homes

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	Page 26	Page 28	Page 29	Page 30	Page 31	Page 32	Page 36	Page 38
Basement Walls, lin. ft.	180	134	158	135	147	110	120	170
Trench Walls, lin. ft.	60	82	193	54	23	58	83	44
Basement Floor, sq. ft.	1531	874	1047	1010	988	648	848	1506
Garage Floor, sq. ft.	361	241	600	200	0	190	180	0
Excavation per ft. deep, cu. yds.	68	43	59	46	40	32	37	65
HoltRate on following items	2.355	1.990	2.223	1.878	1.686	1.383	1.687	2.272
Outside Walls, squares	32.3	24.9	37.4	28.3	20.2	19.8	20.4	23.5
First Floor, squares	15.3	8.7	10.5	10.1	9.9	6.5	8.5	15.1
Second Floor, with Fin. Flg., sqs.	5.5	9.4	5.3	8.4	6.1	5.3	6.5	8.8
Second Floor, without Fin. Flg., sqs.	1.7	1.8	1.0	0	3.3	1.7	1.2	6.3
Ceilings, sqs.	15.3	11.2	13.3	12.1	9.9	8.3	8.5	15.1
Roof Pitch, inches rise per ft. run	10″	7″-24″	9″	12″	14″	10″	11½″	14″
Roof, squares	28.6	20.3	28.6	16.8	17.8	13.7	14.4	24.4
Hips and Valleys, lin. ft.	110	18	48	0	64	12	24	65
Cornice, type and lin. ft.	C & F-164	C & F-208	C & F-382	C & F-182	C & F-181	C & F-208	C & F-264	C & F-155
Cornice, type and lin. ft.	12″-216	8″-128	0	0	12″-50	0	0	8″-92
Partition, lin. ft.	247	216	150	218	195	136	191	335
Inside Finish OS Walls lin. ft.	308	250	238	273	213	200	232	238
Front and OS French Doors, opgs.	2	2	4	1	1	2	2	2
Rear and Grade Doors, opgs.	2	3	2	2	1	1	1	1
Garage Doors 8′ wide	2	1	2	1	0	1	1	0
Inside Doors and Cased Opgs., opgs.	21	20	15	16	21	15	15	26
Windows and Casements, opgs.	20	23	26	20	22	14	22	23
Gable Sash and Louvers, opgs.	2	0	2	2	0	0	0	0
Chimney, lin. ft.	35	34	32	40	34	32	32	34
Main Stairs	1	1	1	1	1	1	1	1
Porch Floor, sqs.	1.4	1.7	4.5	.5	1.1	1.4	1.4	1.8
Porch Ceiling, sqs.	1.4	1.7	4.5	0	1.1	1.1	1.4	1.8
Porch Beam, lin. ft.	25	26	65	0	23	22	45	44
Porch and Bal. Post and Newels, number	23	0	7	8	3	2	8	4
Porch Roof sqs.	0	0	0	0	0	0	1.9	2.2
Porch Cornice, lin. ft.	0	0	0	0	0	0	50	44
Porch and Deck Rail, lin. ft.	60	0	0	57	0	0	0	0

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	Page 39	Page 40	Page 41	Page 42	Page 43	Page 44	Page 46	Page 47
Basement Walls, lin. ft.	120	191	136	132	217	114	113	144
Trench Walls, lin. ft.	66	105	0	38	116	0	0	72
Basement Floor, sq. ft.	807	0	1048	958	1164	809	776	1008
Garage Floor, sq. ft.	386	320	0	0	370	0	0	190
Excavation per ft. deep, cu. yds.	39	0	44	43	60	33	32	48
HoltRate on following items	1.880	1.680	1.774	1.860	2.341	1.510	1.496	2.083
Outside Walls, squares	25.1	21.8	23.1	26.0	34.3	21.1	21.4	27.2
First Floor, squares	8.1	12.1	10.5	9.6	11.6	8.1	7.8	10.1
Second Floor, with Fin. Flg., sqs.	8.7	0	10.0	10.3	10.2	8.1	8.1	10.4
Second Floor, without Fin. Flg., sqs.	3.1	0	0	1.0	.8	0	0	1.6
Ceiling, sqs.	13.3	12.1	10.5	10.3	15.3	8.1	8.1	12.0
Roof Pitch, inches rise per ft. run	11″	3″	10″	10″	14″	10″	12″	12″
Roof, squares	16.8	19.8	14.5	15.7	23.6	11.6	12.4	18.5
Hips and Valleys, lin. ft.	54	30	147	0	70	88	96	40
Cornice, type and lin. ft.	C & F-275	C & F-104	C & F-154	C & F-198	C & F-190	6″-118	C & F-146	C & F-190
Cornice, type and lin. ft.	0	12″-164	0	0	8″-132	0	0	0
Partition, lin. ft.	217	151	213	227	258	170	181	272
Inside Finish OS Walls, lin. ft.	240	191	272	270	406	228	230	290
Front and OS French Doors, opgs.	2	2	4	3	4	1	1	2
Rear and Grade Doors, opgs.	1	2	1	1	2	1	1	1
Garage Doors 8′ wide	2	2	0	0	2	0	0	1
Inside Doors and Cased Opgs., opgs.	19	14	17	19	24	16	16	21
Windows and Casements, opgs.	19	18	19	20	20	17	18	20
Gable Sash and Louvers, opgs.	0	3	0	0	0	0	1	1
Chimney, lin. ft.	32	16	36	38	35	36	38	37
Main Stairs	1	0	1	1	1	1	1	1
Porch Floor, sqs.	1.0	2.6	0	1.8	0	.7	0	1.3
Porch Ceiling, sqs.	1.0	2.6	0	0	0	.7	0	1.3
Porch Beam, lin. ft.	28	52	0	38	0	24	0	33
Porch and Bal. Post and Newels, number	2	10	0	2	0	5	0	14
Porch Roof, sqs.	1.6	3.4	0	0	0	.9	0	1.5
Porch Cornice, lin. ft.	36	20	0	0	0	28	0	36
Porch and Deck Rail, lin. ft.	0	0	0	38	0	0	0	33

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Figures for American Builder Homes

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	Page 48	Page 49	Page 50	Page 52	Page 53	Page 54	Page 55	Page 56
Basement Walls, lin. ft.	140	136	138	143	142	136	161	120
Trench Walls, lin. ft.	76	81	30	56	140	88	109	0
Basement Floor, sq. ft.	1016	860	904	1208	1160	1077	1070	884
Garage Floor, sq. ft.	351	370	220	368	440	370	440	0
Excavation per ft. deep, cu. yds.	48	44	41	54	59	51	56	38
HoltRate on following items	1.498	1.466	1.795	2.014	2.438	2.324	2.380	1.062
Outside Walls, squares	23.9	22.0	24.2	25.7	30.4	33.1	38.4	16.1
First Floor, squares	10.2	8.6	9.0	7.5	11.6	11.3	11.3	8.8
Second Floor, with Fin. Flg., sqs	0	5.5	9.7	9.1	9.9	11.2	10.7	0
Second Floor, without Fin. Flg., sqs	0	1.8	0	2.6	0	0	0	0
Ceilings, sqs	10.2	8.6	11.2	15.8	16.0	14.0	15.7	8.8
Roof Pitch, inches rise per ft. run	8″-10″	10″	4″	12″	10″	9″	12″	10″
Roof, squares	19.4	17.8	13.3	22.2	21.9	19.7	22.0	12.9
Hips and Valleys, lin. ft.	20	0	90	60	85	0	64	0
Cornice, type and lin. ft.	C & F-170	C & F-210	C & F-36	C & F-256	8″-196	6″-102	4″-258	C & F-70
Cornice, type and lin. ft.	0	0	12″-128	0	0	12″-120	0	8″-70
Partition, lin. ft.	128	114	214	253	272	313	246	124
Inside Finish OS Walls, lin. ft.	140	132	267	275	310	306	353	120
Front and OS French Doors, opgs	1	1	2	3	2	2	3	1
Rear and Grade Doors, opgs	2	3	1	2	3	1	2	1
Garage Doors 8′ wide	2	1	1	2	2	2	2	0
Inside Doors and Cased Opgs., opgs	12	15	18	17	23	24	23	12
Windows and Casements, opgs	15	19	23	22	31	24	27	13
Gable Sash and Louvers, opgs	4	0	0	0	0	2	1	4
Chimney, lin. ft.	31	32	32	36	36	38	36	30
Main Stairs	0	1	1	1	1	1	1	0
Porch Floor, sqs	1.3	.4	0	0	3.7	1.0	0	0
Porch Ceiling, sqs	1.3	.4	0	0	3.7	1.0	0	0
Porch Beam, lin. ft.	24	10	0	0	57	29	0	0
Porch and Bal. Post and Newels, number	0	0	0	0	b	6	0	0
Porch Roof, sqs	1.7	0	0	0	3.9	1.4	0	0
Porch Cornice, lin. ft.	24	0	0	0	60	12″-33	0	0
Porch and Deck Rail, lin. ft.	0	0	0	56	b	0	0	0

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	Page 57	Page 58	Page 59	Page 60	Page 62	Page 63	Page 64	Page 66
Basement Walls, lin. ft.	138	110	124	120	110	140	150	...
Trench Walls, lin. ft.	108	42	138	111	45	60	96	295
Basement Floor, sq. ft.	1078	720	837	770	756	1024	1323	...
Garage Floor, sq. ft.	356	171	400	232	0	350	247	380
Excavation per ft. deep, cu. yds.	53	34	46	41	35	48	61	...
HoltRate on following items	2.475	1.666	2.337	1.888	1.870	2.307	2.195	1.936
Outside Walls, squares	29.2	24.8	32.1	30.2	24.4	22.2	26.4	26.7
First Floor, squares	10.8	7.2	8.4	7.7	8.7	10.2	14.6	10.4
Second Floor, with Fin. Flg., sqs	10.9	7.2	10.7	7.9	7.0	13.7	6.9	2.0
Second Floor, without Fin. Flg., sqs	0	0	0	0	0	0	6.4	1.8
Ceiling, sqs	14.6	8.9	12.4	7.9	8.7	13.7	17.1	14.2
Roof Pitch, inches rise per ft. run	10″	10″	10″	10″	10″	5″	10″	12″
Roof, squares	20.6	13.8	17.1	13.8	12.1	22.5	23.6	22.9
Hips and Valleys, lin. ft.	56	8	0	34	30	170	40	50
Cornice, type and lin. ft.	C & F-234	C & F-194	C & F-210	C & F-212	C & F-165	12″-180	C & F-248	C & F-320
Cornice, type and lin. ft.	0	0	0	0	0	C & F-96	0	0
Partition, lin. ft.	266	157	253	182	222	290	240	204
Inside Finish OS Walls, lin. ft.	328	244	315	240	234	334	310	277
Front and OS French Doors, opgs	6	3	2	3	3	4	2	4
Rear and Grade Doors, opgs	2	2	3	2	2	2	1	1
Garage Doors 8′ wide	2	1	2	1	0	2	1	2
Inside Doors and Cased Opgs., opgs	21	14	22	18	21	25	23	22
Windows and Casements, opgs	27	25	30	23	27	22	25	20
Gable Sash and Louvers, opgs	3	0	3	0	2	0	0	2
Chimney, lin. ft.	38	38	38	38	38	38	34	24
Main Stairs	1	1	1	1	2	1	1	1
Porch Floor, sqs	3.2	.7	3.1	2.0	1.1	1.2	1.0	1.2
Porch Ceiling, sqs	3.2	.7	3.1	2.0	1.1	1.2	1.0	.06
Porch Beam, lin. ft.	62	21	77	47	42	26	17	16
Porch and Bal. Post and Newels, number	19	2	7	9	18	8	2	1
Porch Roof, sqs	4.1	0	4.6	2.4	1.4	(a)	(a)	.7
Porch Cornice, lin. ft.	66	0	86	50	38	(a)	(a)	17
Porch and Deck Rail, lin. ft.	0	0	0	27	30	25	0	8

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Figures for American Builder Homes

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	Page 68	Page 69	Page 70	Page 71	Page 72	Page 74	Page 75	Page 76
Basement Walls, lin. ft.	134	154	109	108	104	157	132	120
Trench Walls, lin. ft.	0	104	58	60	66	42	48	44
Basement Floor, sq. ft.	922	1274	720	710	675	940	720	785
Garage Floor, sq. ft.	(c)	240	180	180	190	400	190	246
Excavation per ft. deep, cu. yds.	39	61	35	35	34	44	31	37
HoltRate on following items	1.494	1.620	1.541	1.604	1.570	2.484	1.430	1.724
Outside Walls, squares	19.2	24.7	20.8	23.5	19.6	33.5	19.6	25.3
First Floor, squares	9.3	12.7	7.2	7.1	6.8	9.4	7.2	7.8
Second Floor, with Fin. Flg., sqs	6.1	0	7.3	7.1	6.3	8.4	5.2	8.3
Second Floor, without Fin. Flg., sqs	3.1	0	0	.3	2.4	0	1.7	0
Ceilings, sqs	9.3	12.7	9.1	9.2	8.7	13.4	9.1	10.7
Roof Pitch, inches rise per ft. run	12″	10″	14″	14″	7″-20″	7″	12″	9″
Roof, squares	14.4	20.7	17.1	16.1	16.9	16.8	14.4	13.9
Hips and Valleys, lin. ft.	10	50	48	32	30	0	0	26
Cornice, type and lin. ft.	C & F-226	C & F-278	C & F-166	6″-206	C & F-278	C & F-236	C & F-174	C & F-204
Cornice, type and lin. ft.	0	0	8″-44	C & F-48	24″-36	0	18″-30	0
Partition, lin. ft.	174	173	182	174	164	332	146	190
Inside Finish OS Walls, lin. ft.	190	(d)152	238	260	195	354	215	262
Front and OS French Doors, opgs	3	3	1	2	3	8	2	3
Rear and Grade Doors, opgs	1	2	1	1	1	1	2	2
Garage Doors 8′ wide	(c)	1	1	1	1	2	1	1
Inside Doors and Cased Opgs., opgs	17	12	15	15	14	34	13	17
Windows and Casements, opgs	21	13	15	15	17	37	18	17
Gable Sash and Louvers, opgs	0	4	0	2	2	0	1	0
Chimney, lin. ft.	32	30	34	33	34	36	30	36
Main Stairs	1	0	1	1	1	1	1	1
Porch Floor, sqs	(c)	2.1	1.1	1.0	.9	0	0	0
Porch Ceiling, sqs	(c)	2.1	1.1	1.0	.9	0	0	0
Porch Beam, lin. ft.	(c)	48	30	26	27	0	0	0
Porch and Bal. Post and Newels, number	(c)	2	4	3	4	1	0	0
Porch Roof, sqs	(c)	2.5	(a)	(a)	1.1	0	0	0
Porch Cornice, lin. ft.	(c)	50	(a)	(a)	31	0	0	0
Porch and Deck Rail, lin. ft.	(c)	0	0	0	0	22	0	45

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	Page 77	Page 78	Page 79	Page 80	Page 82	Page 83	Page 84	Page 86
Basement Walls, lin. ft.	123	149	148	116	0	120	122	100
Trench Walls, lin. ft.	41	0	17	74	183	73	16	0
Basement Floor, sq. ft.	901	1148	1078	880	0	1236	853	625
Garage Floor, sq. ft.	210	0	0	203	(c)	0	0	0
Excavation per ft. deep, cu. yds.	41	48	47	42	15	55	37	27
HoltRate on following items	1.602	1.580	1.620	0	1.460	1.720	1.372	.745
Outside Walls, squares	20.5	19.6	19.7	28.3	17.4	20.4	17.1	11.1
First Floor, squares	9.0	11.5	10.8	8.9	15.0	7.1	8.5	6.3
Second Floor, with Fin. Flg., sqs	8.4	4.1	5.2	8.4	0	8.6	4.7	0
Second Floor, without Fin. Flg., sqs	.8	7.4	3.7	0	0	3.7	3.8	0
Ceiling, sqs	10.7	5.5	10.8	10.9	15.0	12.4	8.5	6.3
Roof Pitch, inches rise per ft. run	9″	12″	12″	¼″	6″	13″	10″	6″
Roof, squares	13.7	17.3	16.6	12.1	18.8	19.7	12.3	7.6
Hips and Valleys, lin. ft.	34	60	70	0	160	162	16	0
Cornice, type and lin. ft.	C & F-240	C & F-180	C & F-246	0	8″-190	C & F-180	C & F-176	C & F-110
Cornice, type and lin. ft.	0	0	0	0	0	0	0	0
Partition, lin. ft.	194	177	201	246	170	200	157	78
Inside Finish OS Walls, lin. ft.	222	192	200	259	183	242	170	100
Front and OS French Doors, opgs	3	1	1	2	1	1	1	1
Rear and Grade Doors, opgs	2	1	1	1	1	1	1	1
Garage Doors 8′ wide	1	0	0	1	(c)	0	0	0
Inside Doors and Cased Opgs., opgs	17	18	17	21	13	18	15	10
Windows and Casements, opgs	14	20	18	(b)	21	21	15	8
Gable Sash and Louvers, opgs	0	2	0	0	0	0	0	2
Chimney, lin. ft.	32	32	32	30	20	32	32	25
Main Stairs	1	1	1	0	0	1	1	0
Porch Floor, sqs	0	0	.7	1.1	(c)	0	.8	0
Porch Ceiling, sqs	0	0	.7	2.7	(c)	0	.6	0
Porch Beam, lin. ft.	0	0	17	36	(c)	0	16	0
Porch and Bal. Post and Newels, number	0	0	5	3	(c)	0	9	0
Porch Roof, sqs	0	0	.9	1.6	(c)	0	(a)	0
Porch Cornice, lin. ft.	0	0	18	36	(c)	0	(a)	0
Porch and Deck Rail, lin. ft.	4[illegible]	0	0	0	(c)	0	38	0

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Figures for American Builder Homes

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	Page 88	Page 90	Page 91	Page 92	Page 93	Page 94	Page 96	Page 98-Top
Basement Walls, lin. ft.	185	175	128	119	122	118	128	112
Trench Walls, lin. ft.	39	80	42	15	0	46	44	0
Basement Floor, sq. ft.	437	1251	880	764	866	749	824	706
Garage Floor, sq. ft.	250	234	190	0	0	190	200	0
Excavation per ft. deep, cu. yds.	22	59	40	34	36	36	39	30
HoltRate on following items	1.134	1.606	1.193	.935	1.064	1.062	...	...
Outside Walls, squares	18.3	23.1	18.1	13.6	15.4	15.3	19.0	13.1
First Floor, squares	4.4	12.5	8.8	7.6	8.7	7.5	8.3	7.1
Second Floor, with Fin. Flg., sqs.	4.4	0	0	0	0	0	5.2	0
Second Floor, without Fin. Flg., sqs.	0	0	0	0	0	0	2.2	0
Ceilings, sqs.	6.9	14.8	10.7	7.6	8.7	9.4	10.3	7.1
Roof Pitch, inches rise per ft. run	10″	10″	10″	10″	10″	10″	10″	10″
Roof, squares	9.0	23.1	15.2	10.8	12.4	13.3	13.8	9.9
Hips and Valleys, lin. ft.	0	36	34	24	32	24	18	11
Cornice, type and lin. ft.	V & F-145	C & F-240	C & F-208	C & F-144	C & F-152	C & F-182	C & F-198	C & F-128
Cornice, type and lin. ft.	0	0	0	0	0	0	0	0
Partition, lin. ft.	107	124	147	106	128	124	185	100
Inside Finish OS Walls, lin. ft.	190	205	156	119	122	136	215	112
Front and OS French Doors, opgs.	2	3	1	1	1	1	2	1
Rear and Grade Doors, opgs.	1	2	1	0	0	1	1	1
Garage Doors 8′ wide	1	1	1	0	0	1	1	0
Inside Doors and Cased Opgs., opgs.	10	13	14	12	14	12	15	10
Windows and Casements, opgs.	12	14	11	10	13	11	14	10
Gable Sash and Louvers, opgs.	2	2	2	2	3	2	0	2
Chimney, lin. ft.	34	30	30	26	30	26	30	30
Main Stairs	1	1	0	0	0	0	1	0
Porch Floor, sqs.	0	1.8	0	.5	.2	.3	0	0
Porch Ceiling, sqs.	0	1.8	0	.5	.2	.3	0	0
Porch Beam, lin. ft.	0	39	0	15	13	10	0	0
Porch and Bal. Post and Newels, number	1	6	0	3	2	1	0	0
Porch Roof, sqs.	(a)	(a)	0	(a)	(a)	(a)	0	0
Porch Cornice, lin. ft.	(a)	(a)	0	(a)	(a)	(a)	0	0
Porch and Deck Rail, lin. ft.	45	0	0	8	0	0	0	0

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	Page 98-Bottom	Page 99-Top	Page 99-Bottom	Page 100	Page 102	Page 103	Page 105	Page 109
Basement Walls, lin. ft.	116	118	104	124	143	136	114	93
Trench Walls, lin. ft.	0	0	0	0	39	0	39	0
Basement Floor, sq. ft.	716	745	672	706	916	796	796	524
Garage Floor, sq. ft.	0	0	0	0	190	0	190	0
Excavation per ft. deep, cu. yds.	31	32	29	31	43	34	36	23
HoltRate on following items	...	...	...	.806	1.165	1.313	...	1.133
Outside Walls, squares	13.2	13.2	11.8	12.8	16.3	18.2	15.1	18.5
First Floor, squares	7.2	7.5	6.7	7.1	9.2	8.0	8.0	5.2
Second Floor, with Fin. Flg., sqs.	0	0	0	0	0	4.6	0	5.2
Second Floor, w thout Fin. Flg., sqs.	0	0	0	0	0	3.4	0	0
Ceiling, sqs.	7.2	7.5	6.7	7.1	11.1	7.6	9.9	5.2
Roof Pitch, inches rise per ft. run	8″	5″	8″	6″	10″	12″	10″	8″
Roof, squares	9.9	9.5	8.7	8.6	15.7	12.4	13.7	6.9
Hips and Valleys, lin. ft.	16	24	0	22	42	16	0	0
Cornice, type and lin. ft.	C & F-130	C & F-130	C & F-118	C & F-134	C & F-178	C & F-182	C & F-165	C & F-104
Cornice, type and lin. ft.	0	0	0	0	0	0	0	0
Partition, lin. ft.	101	103	98	78	148	166	143	128
Inside Finish OS Walls, lin. ft.	116	118	104	124	143	176	133	186
Front and OS French Doors, opgs.	1	1	1	1	1	1	1	2
Rear and Grade Doors, opgs.	1	1	1	1	1	1	0	1
Garage Doors 8′ wide	0	0	0	0	1	0	1	0
Inside Doors and Cased Opgs., opgs.	11	11	10	6	13	17	14	12
Windows and Casements, opgs.	9	11	11	11	10	12	11	15
Gable Sash and Louvers, opgs.	2	4	2	0	2	0	1	0
Chimney, lin. ft.	28	27	28	23	28	33	28	34
Main Stairs	0	0	0	0	0	1	0	1
Porch Floor, sqs.	.4	.6	.3	0	.2	0	0	0
Porch Ceiling, sqs.	.4	.6	.3	0	.2	0	0	0
Porch Beam, lin. ft.	13	17	16	0	8	10	0	0
Porch and Bal. Post and Newels, number	2	4	5	0	1	0	0	(b)
Porch Roof, sqs.	0	0	.5	0	(a)	0	0	(b)
Porch Cornice, lin. ft.	0	0	15	0	(a)	0	0	0
Porch and Deck Rail, lin. ft.	0	0	0	0	0	0	0	0

(a)—Included with main roof and cornice. (b)—Omitted in HoltRate on account of being so special.

Necessary Home Equipment, Fixtures, Accessories, Extras

Since the above surveyed items cover only the actual superstructure of the house, you should figure and add the following items as specified or wanted (and don't forget Overhead and Profit):

Areaways, Cellar Sash, Coal Chute, Basement Partitions & Doors, Attic Flooring, Attic Stairs, Blinds, Gutters & Downspouts, Fireplaces, Built-in Cabinets, Rail & Newels for Stairs and Stair Well, Beamed Ceiling, Weatherstrips, Tile Work, Plumbing, Heating & Air Conditioning, Lighting, Terraces, Patio Walls or Fences, Sidewalks including Porch Steps, Driveways, Unattached Garages. Also add for painting and decorating if not included in Unit Costs.

TruCost

Reg. U.S. Pat. Off.

Figures for American Builder Homes

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	Page 110	Page 111	Page 112	Page 113	Page 114	Page 115	Page 117	Page 118
Basement Walls, lin. ft.	83	118	98	95	104	105	122	110
Trench Walls, lin. ft.	24	0	25	43	50	91	42	64
Basement Floor, sq. ft.	426	846	585	563	642	666	737	693
Garage Floor, sq. ft.	0	0	0	190	200	180	210	240
Excavation per ft. deep, cu. yds.	21	36	27	28	31	35	35	34
HoltRate on following items	1.024	.913	1.205	1.310	1.263	1.611	.972	...
Outside Walls, squares	15.4	13.0	16.6	18.7	21.2	22.1	13.9	21.3
First Floor, squares	4.3	8.5	5.9	5.6	6.4	6.7	7.4	6.9
Second Floor, with Fin. Flg., sqs.	4.3	0	4.7	4.3	4.5	6.7	0	4.2
Second Floor, without Fin. Flg., sqs.	0	0	1.2	1.3	1.2	0	0	2.7
Ceilings, sqs.	4.3	8.5	5.9	7.5	8.4	8.5	7.4	6.9
Roof Pitch, inches rise per ft. run	8″	6″	12″	12″	12″	9″	5″	11″
Roof, squares	5.6	10.2	8.1	10.8	12.1	12.2	12.2	14.2
Hips and Valleys, lin. ft.	56	0	0	20	17	0	40	52
Cornice, type and lin. ft.	C & F-87	C & F-128	C & F-144	6″-140	C & F-196	C & F-171	C & F-154	C & F-268
Cornice, type and lin. ft.	0	0	0	C & F-111	0	0	0	0
Partition, lin. ft.	98	113	136	147	117	188	96	136
Inside Finish OS Walls, lin. ft.	167	118	160	184	203	235	122	166
Front and OS French Doors, opgs.	2	1	2	1	1	2	1	1
Rear and Grade Doors, opgs.	1	1	1	2	1	2	1	2
Garage Doors 8′ wide	0	0	0	1	1	1	0	1
Inside Doors and Cased Opgs., opgs.	11	10	16	15	12	18	9	15
Windows and Casements, opgs.	12	10	13	15	14	16	11	16
Gable Sash and Louvers, opgs.	0	2	0	2	0	3	3	0
Chimney, lin. ft.	33	26	32	32	26	34	26	32
Main Stairs	1	0	1	1	1	1	0	1
Porch Floor, sqs.	.7	0	.8	0	0	1.5	1.1	.7
Porch Ceiling, sqs.	.7	0	.8	0	0	1.5	1.1	.7
Porch Beam, lin. ft.	24	0	25	0	0	54	45	12
Porch and Bal. Post and Newels, number	6	0	2	0	0	7	6	2
Porch Roof, sqs.	.9	0	1.3	0	0	1.8	0	1.0
Porch Cornice, lin. ft.	26	0	32	0	0	52	0	12
Porch and Deck Rail, lin. ft.	0	0	25	0	0	8	10	0

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	Page 119	Page 122	Page 130	Page 132	Page 134	Page 135	Page 136	Page 137
Basement Walls, lin. ft.	119	133	164	127	152	124	114	172
Trench Walls, lin. ft.	12	36	49	56	0	0	0	0
Basement Floor, sq. ft.	787	1090	1075	940	1074	740	800	864
Garage Floor, sq. ft.	0	0	460	0	0	0	0	200
Excavation per ft. deep, cu. yds.	34	48	50	44	45	21	34	45
HoltRate on following items	...	1.934	...	...	...	...	...	...
Outside Walls, squares	12.3	29.3	27.7	21.8	17.4	16.5	12.8	15.2
First Floor, squares	7.9	10.9	10.8	9.4	10.7	7.4	8.0	8.6
Second Floor, with Fin. Flg., sqs.	0	10.9	12.2	4.5	0	3.7	0	0
Second Floor, without Fin. Flg., sqs.	0	0	3.2	0	0	1.9	0	0
Ceiling, sqs.	7.9	10.9	15.4	0	10.7	7.4	8.0	5.2
Roof Pitch, inches rise per ft. run	6″	9″	10″	14″-12″	8′	14″	8″	10″
Roof, squares	10.0	14.5	21.0	21.1	17.0	12.3	10.3	12.1
Hips and Valleys, lin. ft.	72	0	82	68	0	0	0	22
Cornice, type and lin. ft.	C & F-126	C & F-152	C & F-240	24″-220	24″-198	C & F-132	C & F-130	C & F-158
Cornice, type and lin. ft.	0	0	12″ 10	0	0	8″ 82	0	0
Partition, lin. ft.	84	275	371	117	131	145	89	116
Inside Finish OS Walls, lin. ft.	119	266	297	195	152	172	114	132
Front and OS French Doors, opgs.	1	2	2	2	2	2	3	2
Rear and Grade Doors, opgs.	1	2	2	1	1	1	1	1
Garage Doors 8′ wide	0	0	2	0	0	0	0	1
Inside Doors and Cased Opgs., opgs.	7	20	28	9	10	17	7	13
Windows and Casements, opgs.	9	18	32	20	12	17	9	15
Gable Sash and Louvers, opgs.	1	0	0	0	0	0	2	2
Chimney, lin. ft.	24	38	33	34	30	32	28	30
Main Stairs	0	2	2	1	0	1	0	1
Porch Floor, sqs.	.4	.8	0	3.2	1.8	2.2	1.8	2.2
Porch Ceiling, sqs.	.4	.8	0	1.1	1.8	2.2	1.8	1.6
Porch Beam, lin. ft.	13	36	0	30	38	42	84	36
Porch and Bal. Post and Newels, number	4	4	0	10	3	7	10	4
Porch Roof, sqs.	0	1.4	0	0	3.2	2.7	5.4	2.3
Porch Cornice, lin. ft.	0	36	0	0	44	48	90	44
Porch and Deck Rail, lin. ft.	0	0	0	60	34	48	38	60

(a)—Included with main roof and cornice. (b)—Omitted in HoltRate on account of being so special.

Necessary Home Equipment, Fixtures, Accessories, Extras

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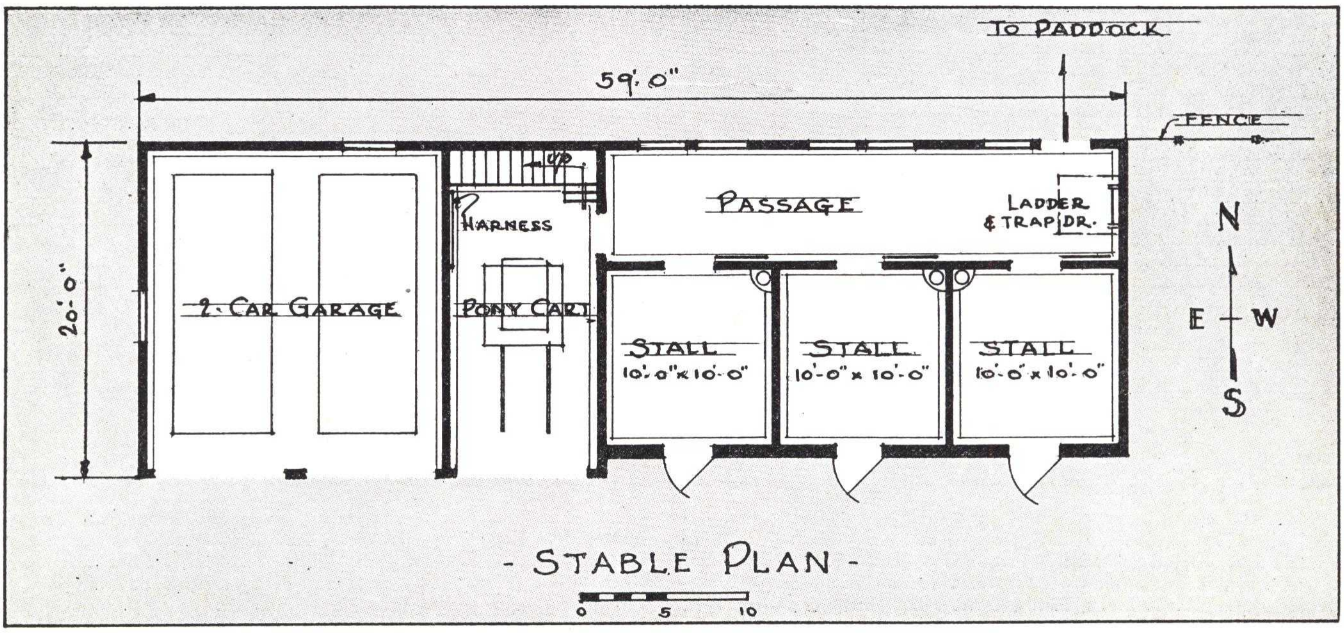
THREE HORSES, two cars and a pony cart are attractively housed in this building on the estate of H. G. Bergen at East Williston, L. I. General character of design would harmonize with any type of Colonial styling.

COMBINATION STABLE AND GARAGE

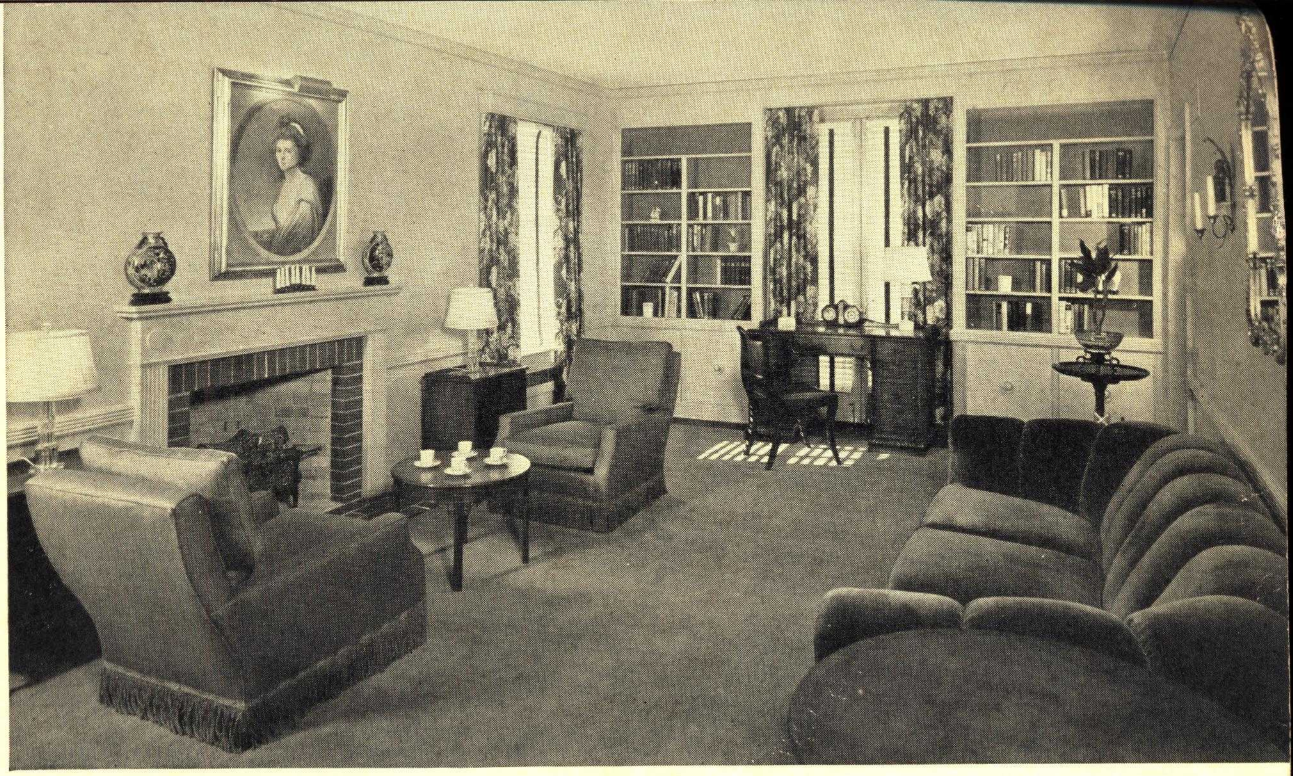
H. J. Reed Barrett, Architect

THIS ATTRACTIVE STRUCTURE forms one side of the entrance court to a Long Island estate. As the plan below shows there are a two-car garage with Overhead doors, a special "garage" for the pony cart, and three 10 by 10-foot horse stalls. Floors of the stalls provide perpetual drainage and are built of 2 feet of rock, 2 feet of cinders, 4 inches of loam and 8 inches of peat moss.

There is a metal-lined grain storage room over the garage and hay storage provided over the stalls. Specifications include Curtis millwork, U.S.G. stucco, Creo-Dipt shingle roof, Curtis Protectovent sash, providing for winter ventilation.



- STABLE PLAN -



Living room in Beverly Hills (Chicago) all gas model home.

Special Interior Features Win Approval

Bookshelves, Cupboards, Fireplaces, Bathrooms—All Contribute Value to the 1938 Home.

RIGHT; Hospitable dining room in Summit (N.J.) home; Wm. M. Pareis, architect. BELOW; Bathroom typical of today's homes.

BELOW & RIGHT; Compelling fireplace treatment by Randolph Evans, architect at Nassau Shores.